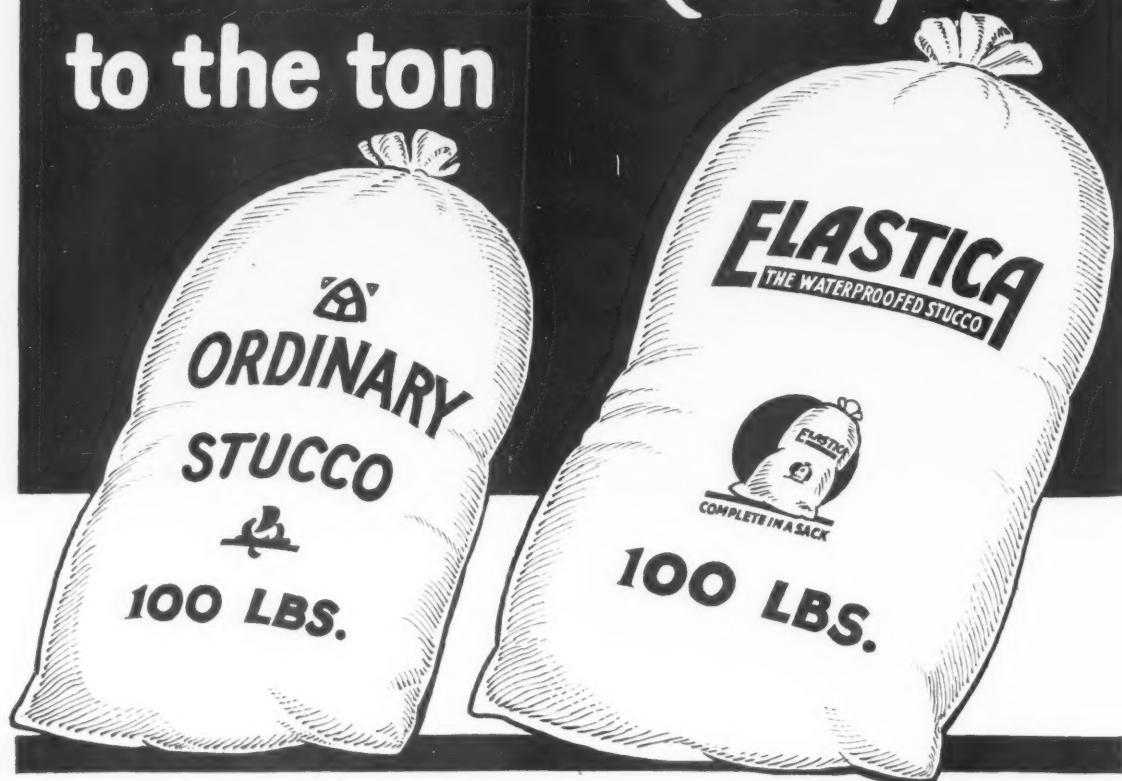


Use the best—

Elastica is *lighter, bulkier*
=covers more square yards
to the ton

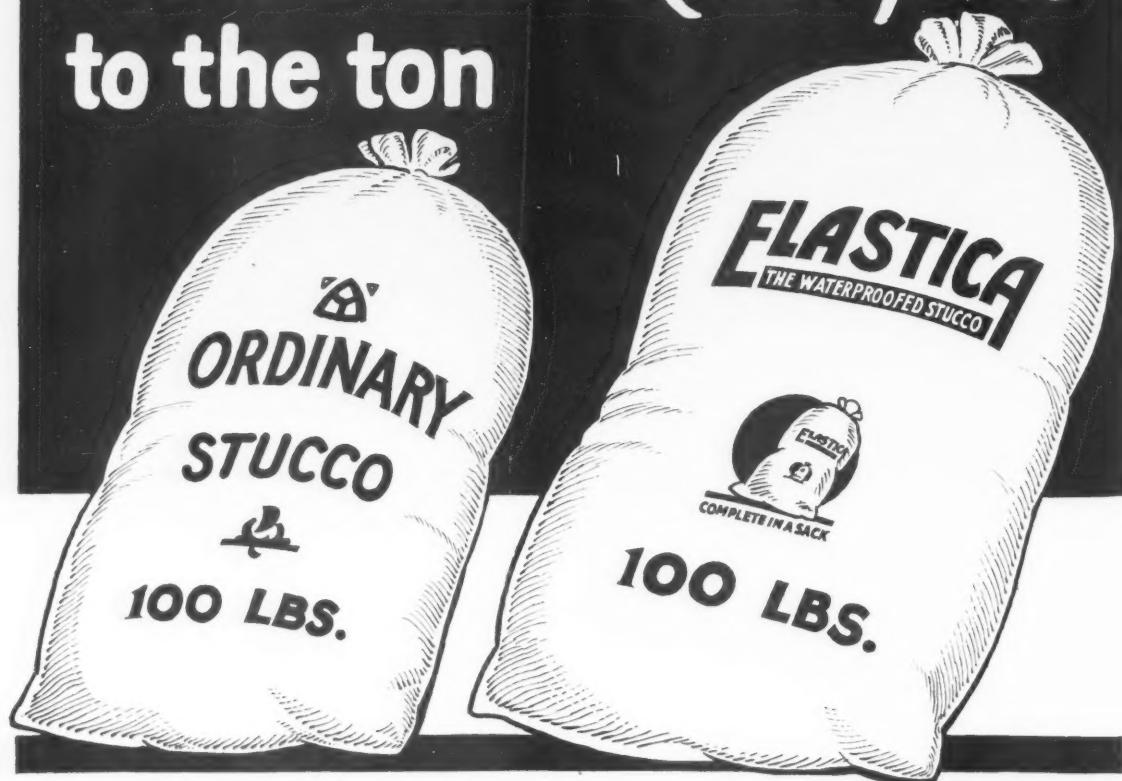


Manufactured by

U. S. MATERIALS CO. - - - - - CHICAGO
AMERICAN MATERIALS CO. - - - NEW YORK
ART STUCCO MATERIALS CO. - - - DETROIT
NORTH WEST MATERIALS CO. - - - ST. PAUL

Use the best—

Elastica is *lighter, bulkier*
=covers more square yards
to the ton



Manufactured by

U. S. MATERIALS CO. - - - - - CHICAGO
AMERICAN MATERIALS CO. - - - NEW YORK
ART STUCCO MATERIALS CO. - - - DETROIT
NORTH WEST MATERIALS CO. - - - ST. PAUL

it costs no more

ELASTICA is the highest quality stucco that it is humanly possible to manufacture. The best ingredients are used; it is permanently waterproofed—it is a carefully and expensively prepared material. Necessarily, it does cost more per ton—*But it does not cost more per yard.*

That means that it doesn't cost you any more to use Elastica than it does to use ordinary stucco. And in using it you make greater profits:

First, you can make more money in using Elastica, because the cost of application is not as great; in one working day, one man and a helper can apply 20 to 25 yards more Elastica than ordinary stucco—thus cutting labor costs.

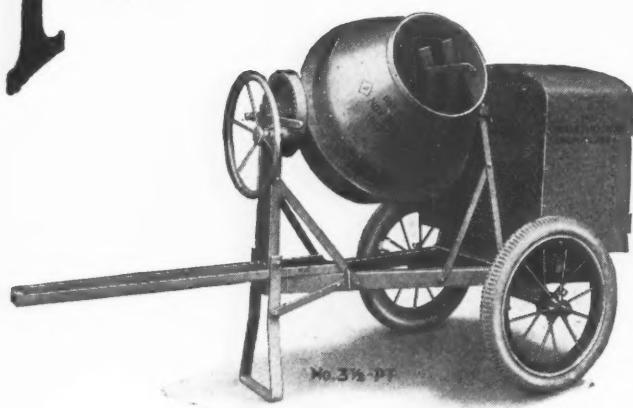
Second, it is easier to sell, and brings better prices, because it is a *well-known* quality material—its reputation helps you sell it.

And finally, the purchaser of an Elastica job becomes a satisfied owner, so that every job will bring you other prospects, and other Elastica jobs.

ELASTICA

THE WATERPROOFED STUCCO

ANNOUNCING NEW MODELS -



No. 3 ST Jaeger Trailer Mixer on 2-28 inch Steel Wheel

Price \$166.00

Net Cash f. o. b. Columbus, Ohio

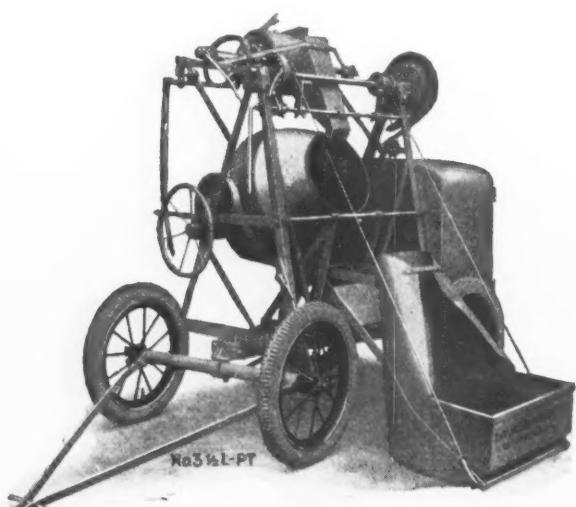
No. 3½ ST Jaeger Trailer Mixer on 2-28 inch Steel Wheels

Price \$190.00

Net Cash f. o. b. Columbus, Ohio

Extra for Pneumatic Tired Wheels . . . \$24.00

Extra for Solid Cushion Tired Wheels - 33.00



No. 3½ L-ST on 4-28 inch Steel Wheels less Watertank

Price \$313.00

Net Cash f. o. b. Columbus, Ohio

No. 3½ L-CT on 4-30x3½ Solid Rubber Cushion Tires with Watertank

Price \$408.00

Net Cash f. o. b. Columbus, Ohio

JAEGER has scored another big hit with the concrete industry! *Quantity production—greater factory efficiency—simplicity of design—huge purchasing power—and volume sales.* These are the factors that have enabled us to offer contractors the greatest possible values in concrete mixers. Our 1925 models and prices are the successful result of years of concentration in making but one line of machinery—concrete mixers.

This singleness of purpose has achieved great savings for every contractor. Our entire organization thinks, plans and works to one end—that Jaeger "Tilting-Drum" Concrete Mixers shall be "the first and last word" in concrete mixing efficiency and economy. How well we have succeeded is evidenced by the thousands of contractors who now use Jaeger Mixers—on every type of concrete construction!

Jaeger now manufactures six sizes of concrete mixers—and thirty-six different models. We show on this page the No. 5-L, the one-sack mixer; the 7-L for a sack-and-a-half mix; the 3½L-PT, the new, ideal half-sack machine; and the 3½-P-T for trailer service.

(Over 30,000 Jaeger Mixers have been sold since 1912.)

The Original
JAE
Tilting -

JAEGER MIXERS

AND THEIR PRICES!

The big features of the Model 1925 Jaeger Mixers are:

1. Exclusive, patented Jaeger tilting-drum.
2. Exclusive patented loader.
3. Exclusive patented semi-automatic discharge.
4. Exclusive patented water tank.

Every model has interchangeable wheels and can be equipped with steel, pneumatic or cushion tires. Each of them is backed by the Jaeger Guarantee of complete satisfaction. And when you buy them you buy not only a dependable, efficient machine but the service that this organization renders every purchaser.

Write us today for copy of our new 1925 catalog. With it we will send you the name of our distributor in your town. Have him demonstrate for you the superior advantages Jaeger Concrete Mixers offer you.

All tilting-drum mixers are not Jaegers. There are many imitations but only one original Jaeger Tilting-Drum Mixer. Why consider imitations when you can buy an original Jaeger Mixer for the same or less money? Look for the name of the drum and the flat spots inside.

The Jaeger Machine Co.
318 Dublin Road Columbus, Ohio

JAEGER

Drum Mixers



No. 5L-ST on 4-28 inch Steel Wheels less Watertank

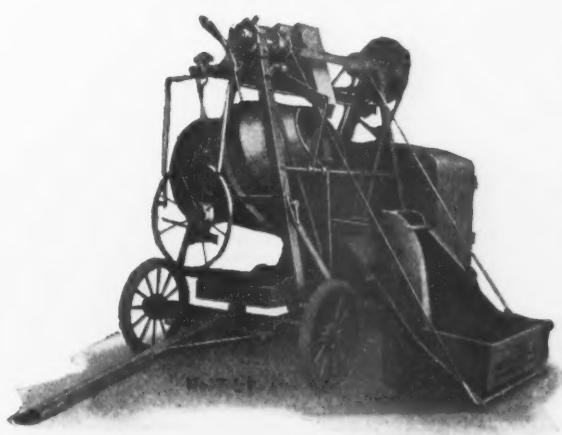
Price \$456.00

Net Cash f. o. b. Columbus, Ohio

No. 5L-CT as illustrated on 4-solid Rubber Cushion Tired Wheels complete with Watertank

Price \$560.00

Net Cash f. o. b. Columbus, Ohio



No. 7L-1 on 4-28 inch Steel Wheels less Watertank

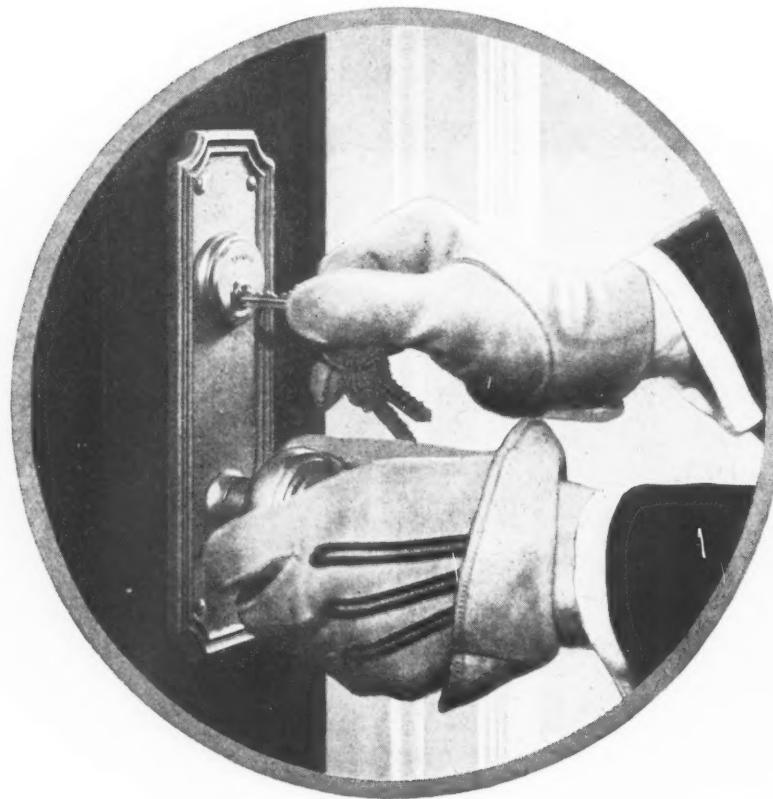
Price \$645.00

Net Cash f. o. b. Columbus, Ohio

No. 7L-1 as illustrated on Solid Rubber Wheels with Watertank

Price \$765.00

Net Cash f. o. b. Columbus, Ohio



For mansion or six-room house— *Sargent Builder's Hardware*

MANY builders think that Sargent Locks and Hardware of solid brass or bronze are only for pretentious buildings. It is true that no better hardware is made for the costly structure. But at the same time there is none more practical or more truly economical for the moderately priced dwelling.

Sargent Hardware is an asset of considerable value to the small-home builder. His sales appeal necessarily is based on a few prominent

details. One of these is, or should be, hardware. The better appearance and greater service of Sargent Hardware can conveniently be called to the prospective buyer's attention. He can safely be told that he is paying a slight additional cost to insure hardware convenience and security as lasting as the home itself. He is easily convinced that it's worth the difference.

Styles for every building purpose—homes, apartments, hotels and offices.

SARGENT & COMPANY, Hardware Manufacturers

51 Water Street, New Haven, Conn.

SARGENT PLANES AND SQUARES

designed only for professional use!



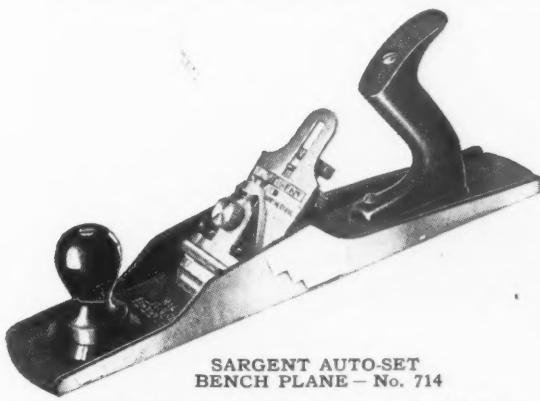
WHEN you buy Sargent Planes and Squares, you are investing in two of the finest tools that carpentry and manufacturing skill have developed. Years of use in shops and on building operations have proved the uniform excellence of Sargent designs and the constant quality of Sargent construction. The one high standard never varies. Every Sargent Plane is in the strictest sense—a professional tool.

Many carpenters consider Sargent Framing Squares the most accurately scaled and

completely tabled squares on the market. They really do most of the calculating for the carpenter—giving cuts for common, hip, valley, jack and cripple rafters as well as all top, bottom and side cuts. Each is carefully tested for trueness and accuracy of marking. Made in royal copper, nickel-plated, galvanized and other durable finishes. See Sargent Planes and Squares at your dealer's. Two popular Sargent Planes are shown below. Write us for descriptive booklets.

SARGENT & COMPANY, Manufacturers

51 Water Street, New Haven, Conn.



SARGENT AUTO-SET
BENCH PLANE — No. 714

A time and labor saver. The Auto-Set feature permits chromium steel cutter to be removed, sharpened and replaced without changing original adjustment. Never chatters when in place. Solid, compact, simply constructed. Smooth, jack, fore and jointer—in all sizes.

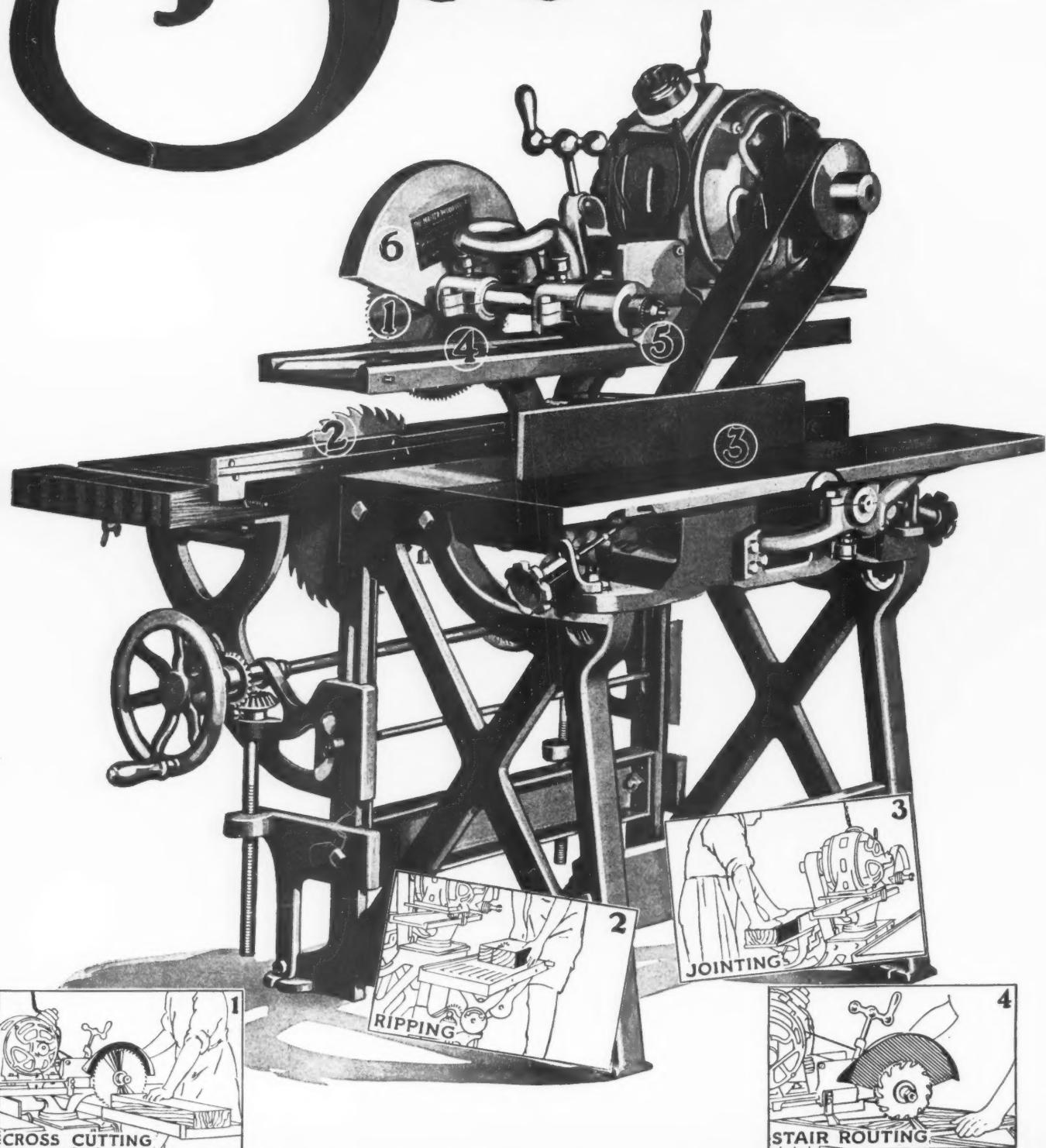


SARGENT ADJUSTABLE IRON
BENCH PLANE — No. 414

Heavy chromium steel cutter (No. 12 gauge) offsets usual tendency of spring cap plane to vibrate when used across or against the grain. Cutting edge of cutter held rigidly against frog by foot of clamp. Made in all sizes—smooth, jack, fore and jointer.

SARGENT
Tools & Hardware

Sage



4 men's wages

The Master Woodworker will actually save four men's wages, [some contractors even put it as high as six men]. Yet the annual interest on your investment in this wonderful machine will be actually less than you would have to pay one carpenter for six days' work.

The Master Woodworker will last a lifetime, depreciation and upkeep expense being so small that it hardly need be considered.

In other words, a Master Woodworker will give you *each year* for the rest of your life, the equal of approximately 1200 days of expert labor at the price you would pay a man for ten or twelve.

We will be glad to thoroughly prove these claims if you will sign this coupon and give us a chance.

We will prove them by giving you a big book full of blue prints and detailed description so you can see for yourself what the Master Woodworker can do.

We will prove these claims by the signed statements of successful contractors who have used the machine for years.

We will prove them by sending you the machine on an easy payment plan so you can let it pay for itself. And we will give you the privilege of

returning it and getting your money back if you don't find that it does exactly as we claim.

Think of what this saving will mean to you this year in increased profits. Think of the advantages it will give you in estimating and bidding. And all for a small down payment, no more than you would pay a man for a few days' labor.

But you ought to act now so that we can make quick delivery and let it begin to earn money for you all during this big building year.

What It Will Do

It is twelve machines in one—the fastest and most accurate woodworker on the market. It crosscuts four inches thick, rips four inches thick, dadoes—does routing, planing, rabbeting, boring, ripping, grinding, stair housing, jointing, moulding, crosscutting, tenoning, mitering, plowing and mortising.

Not a saw rig, but a complete woodworker. The saw travels at any angle and goes through the work the natural way. It can be transported from job to job in a Ford "pickup."

It will handle 80% of all the work in most cabinet, pattern or carpenter shops.

It will make every cut necessary for house building or inside finishing. Connectable to either 110 or 220 volts. Can be easily transported from room to room. Works accurately—no vibration—work at all times visible to the operator. Sturdy and reliable. Will last a lifetime.

Model illustrated is the No. 9, also made in a larger size for millwork and in two smaller sizes.

MASTER WOODWORKER MANUFACTURING COMPANY

Brush and Congress Streets

Detroit, Michigan

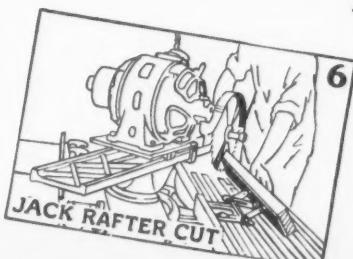
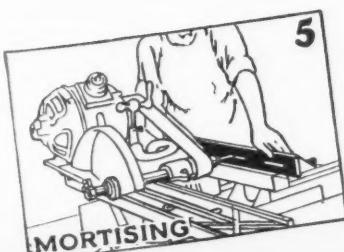
Master
Wood-
worker
Mfg. Co.

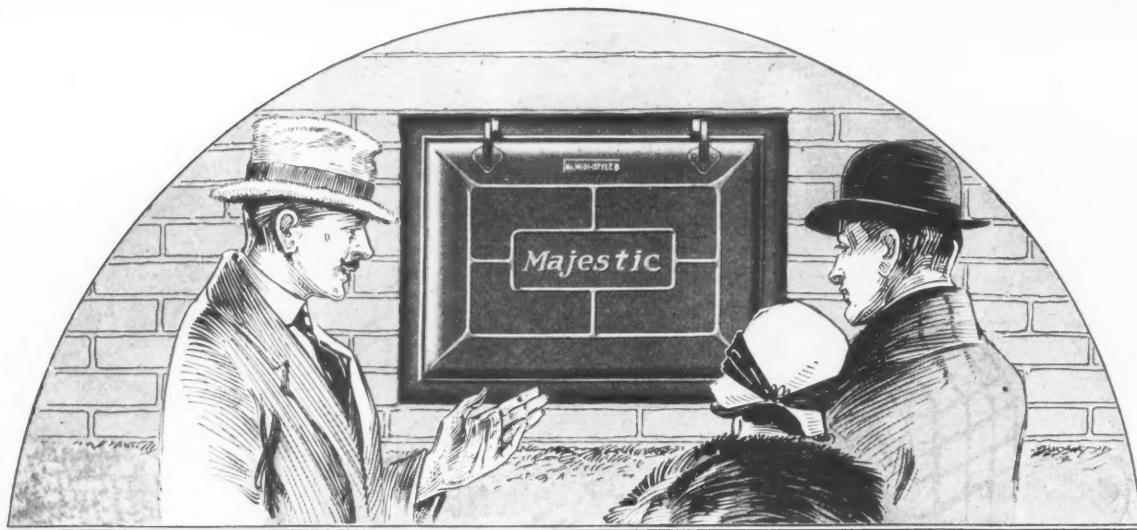
Brush and Congress
Streets
Detroit, Michigan

Send me your Big Book
free showing me how to Save
4 Men's Wages.

Name _____

Address _____





The Recognized Standard of Quality

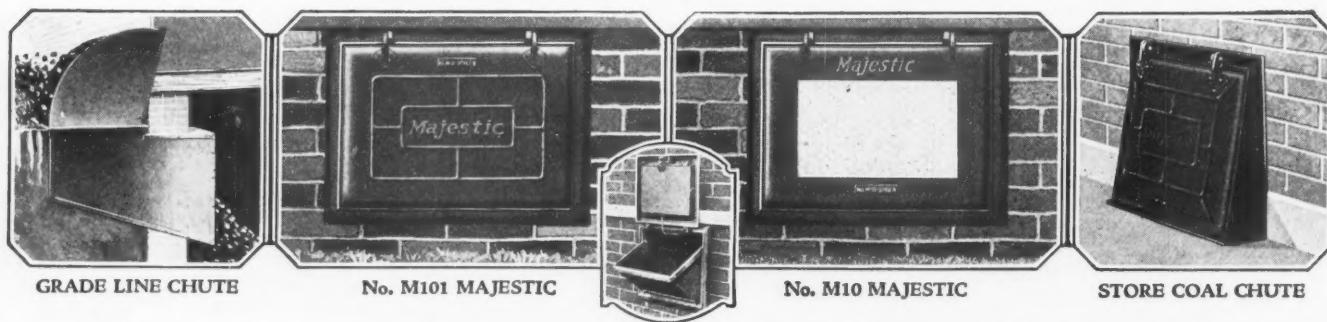
WHEN you point out a Majestic Coal Window, folks recognize it instantly as a mark of quality. It says "good value"—and it strengthens all you have said about the hidden features of the home.

The Majestic is the accepted standard of coal window quality and value, because of its break-proof, rust-resisting construction—

made of Certified Malleable Iron and Keystone Copper Steel, with electro-galvanized pressed steel door.

No wonder the Majestic Coal Window is a selling asset in a home. No wonder more and more builders are putting the Majestic in the homes they build to sell, as well as those they build on contract.

STYLES AND SIZES FOR EVERY REQUIREMENT. WRITE FOR CATALOG AND DEALER'S NAME.



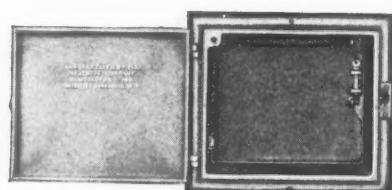
Majestic Coal Window

BREAK-PROOF — RUST-RESISTING

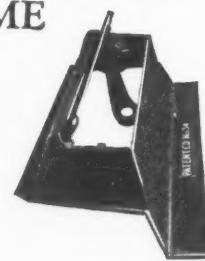
OTHER MAJESTIC QUALITY PRODUCTS
NEEDED IN EVERY HOME



GARBAGE RECEIVER



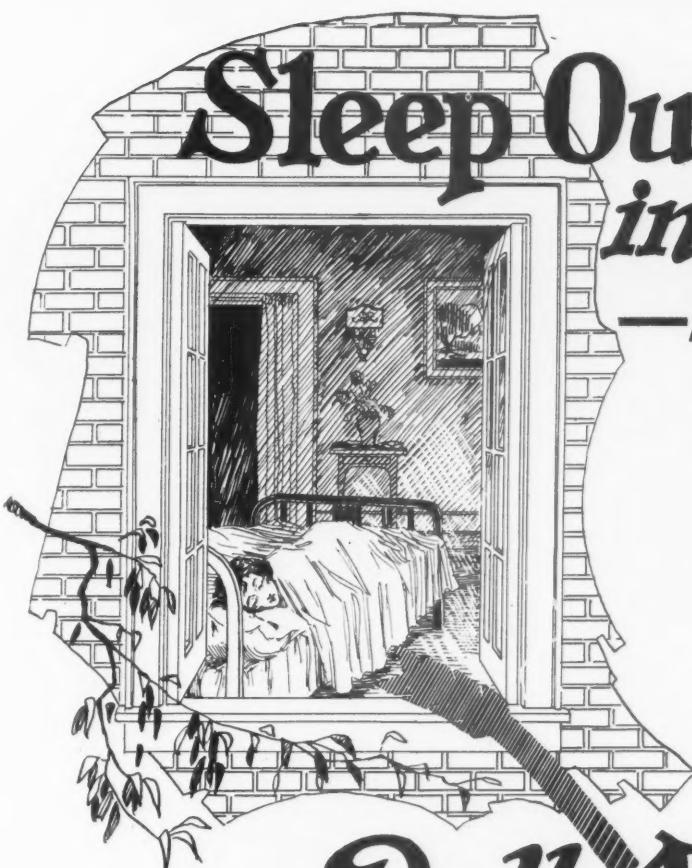
PACKAGE RECEIVER



FIREPLACE DAMPER



THE MAJESTIC COMPANY • HUNTINGTON, INDIANA



Sleep Out O'Doors *in any room* —fresh air is essential

Roll-A-Way Beds roll to any window and through any door.

Absolutely unattached and require no special closets.

The Roll-A-Way Bed provides an additional bedroom in any old or new home.

The Roll-A-Way is real furniture—made in the latest designs and finishes.

Roll-A-Way

Unattached—Placed Anywhere

The large ball-bearing, rubber tire rollers make it extremely easy to roll over carpeted floors.

The heavily rubber tire wheels protect the finest rugs and floors.

The thick felt bumper extends beyond the bed in all directions protecting the bed, the trim, and the furniture in room.

BUILDERS. Show your client how the installation of Roll-A-Way Beds will actually save them real money.

Write today for complete information. Send your floor plans and receive the money saving suggestions of our technical department and pass them on to your clients.

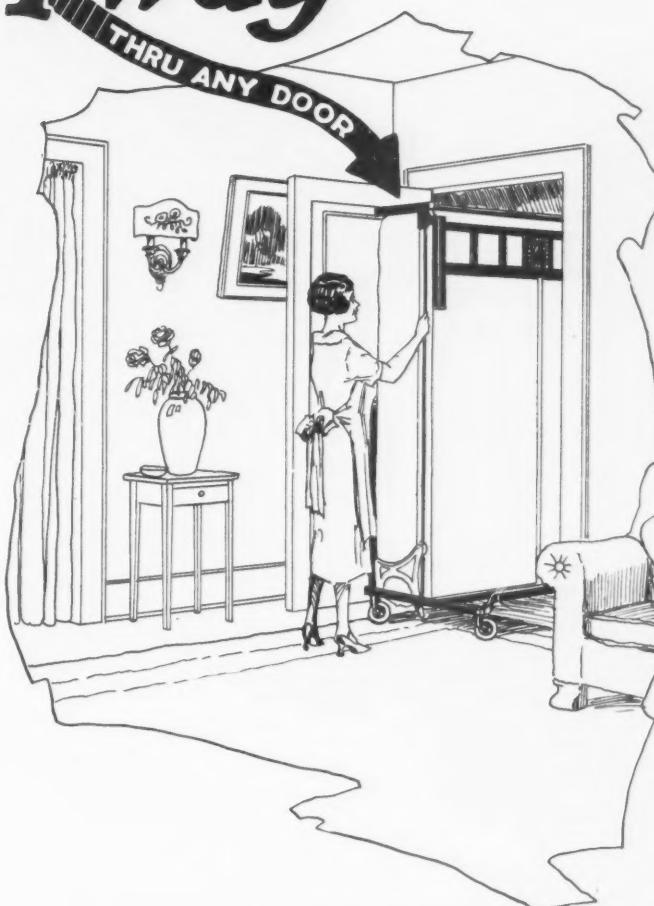
Roll-A-Way BED CORPORATION

ROLL-A-WAY SLEEPING SYSTEM

225 WEST OHIO STREET
(AT GRAND AVE 'L' STATION)

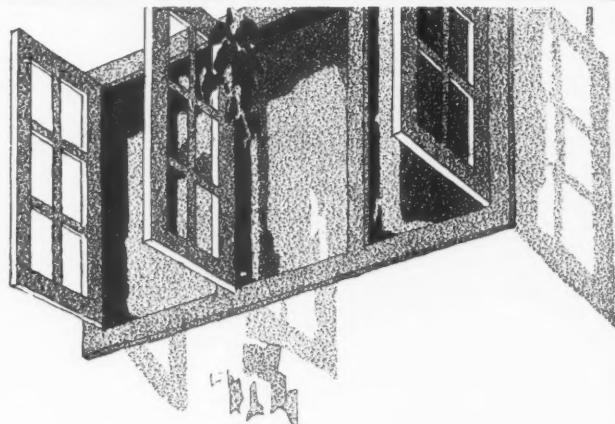
CHICAGO

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



The pick o' the pines— *Pondosa*

An inventory of the standing timber of the world reveals but little pine to compare with Pondosa, the wonder-wood from the Inland Empire of the Great Northwest. Builders say it's great wood to work with. They mean its freedom from objectionable features; the way it takes nails in short grain without splitting; the way it dresses up and takes the paint. Every trade-marked stick of this all-purpose lumber is rigidly graded, thoroughly seasoned and carefully milled. For sale by all good lumber dealers. Write for the Pondosa story. Address Dept. 22, Western Pine Manufacturers Association of Portland, Oregon.



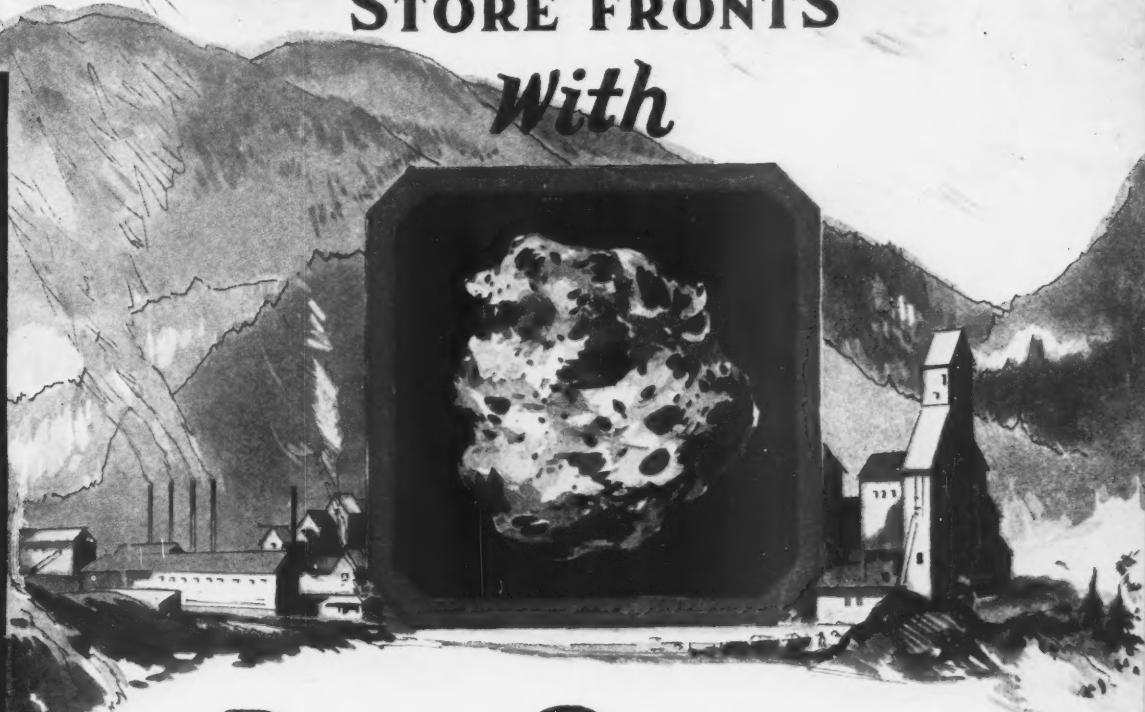
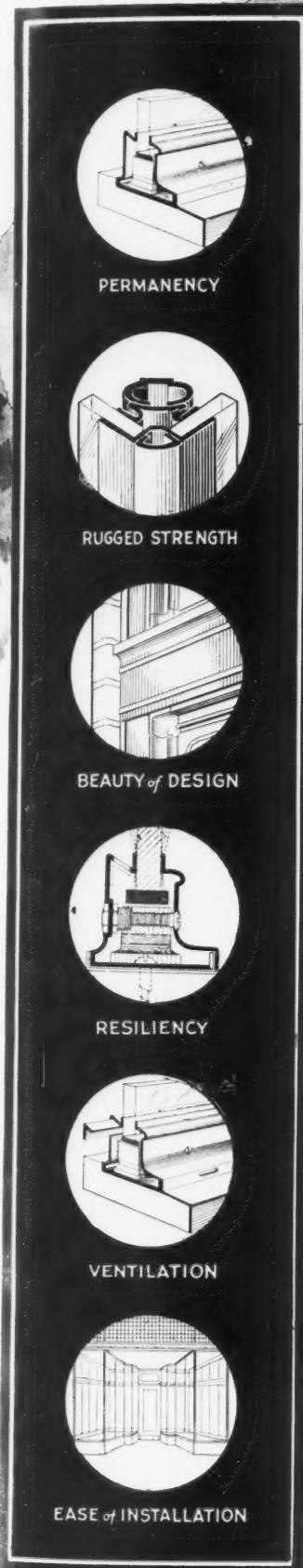
Pondosa Pine *The Pick o' the Pines*



Nature contributes Permanency to Kawneer

SOLID COPPER
STORE FRONTS

With



Pure Copper

For Rugged Strength—for Resistance to Weather, for Long Life and Unfailing Service, Kawneer specifications call for Pure Copper.

That Kawneer Solid Copper Store Fronts are built to last indefinitely is best established by the fact that the first complete installation, which was put in 20 years ago for the F. Johnson Co., of Holdrege, Nebraska, is still in good condition.

Study the six features of Kawneer Supremacy illustrated in the panel to the left. Then mail the coupon and learn, without cost or obligation, how Kawneer Store Fronts improve the appearance of any store and increase the merchant's sales and profits by making passers-by Stop, Look and Purchase.

The
Kawneer Company,
2126 Front St.,
Niles, Michigan.

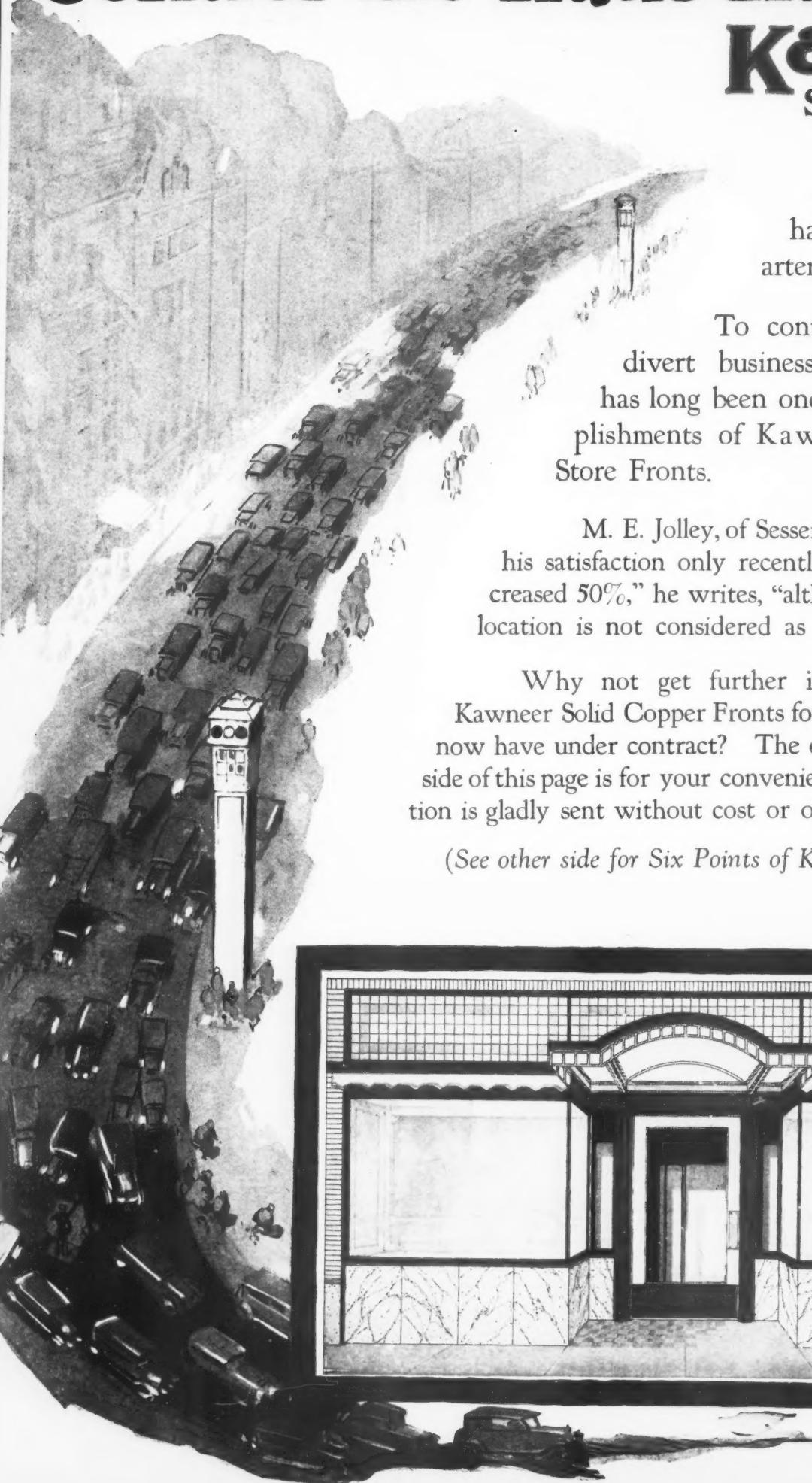
Please send me without obligation
"Design Book" of Kawneer Solid Copper
Store Fronts.

Name.....

Address.....

City..... State.....

Control the Trade Traffic with **Kawneer** SOLID COPPER STORE FRONTS



Every town and city
has its favored business
arteries.

To control trade traffic and divert business from beaten paths has long been one of the major accomplishments of Kawneer Solid Copper Store Fronts.

M. E. Jolley, of Sesser, Illinois, proved this to his satisfaction only recently. "My sales have increased 50%," he writes, "although my present store location is not considered as good as my old one."

Why not get further information concerning Kawneer Solid Copper Fronts for store installations you now have under contract? The coupon on the opposite side of this page is for your convenience—and the information is gladly sent without cost or obligation.

(See other side for Six Points of Kawneer Superiority.)



You!

Who are you?

You're the fellow who pays and pays for dissatisfaction more times than for satisfaction.

You're the fellow who specifies the hardware on most of the jobs you erect.

You're the fellow who gets the blame if a door doesn't hang correctly even though the fault lies in the hardware.

You're the fellow who is passing up the easiest way in the world to distinguish the kind of hardware that will eliminate 95% of your troubles.

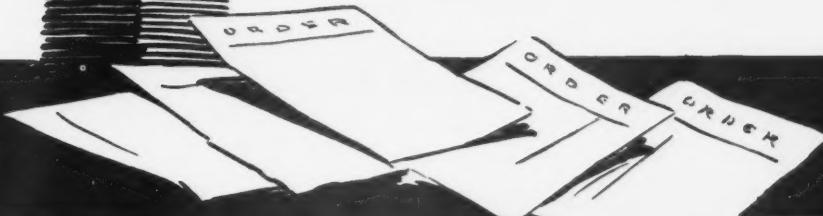
You can't go wrong when the goods are guaranteed.

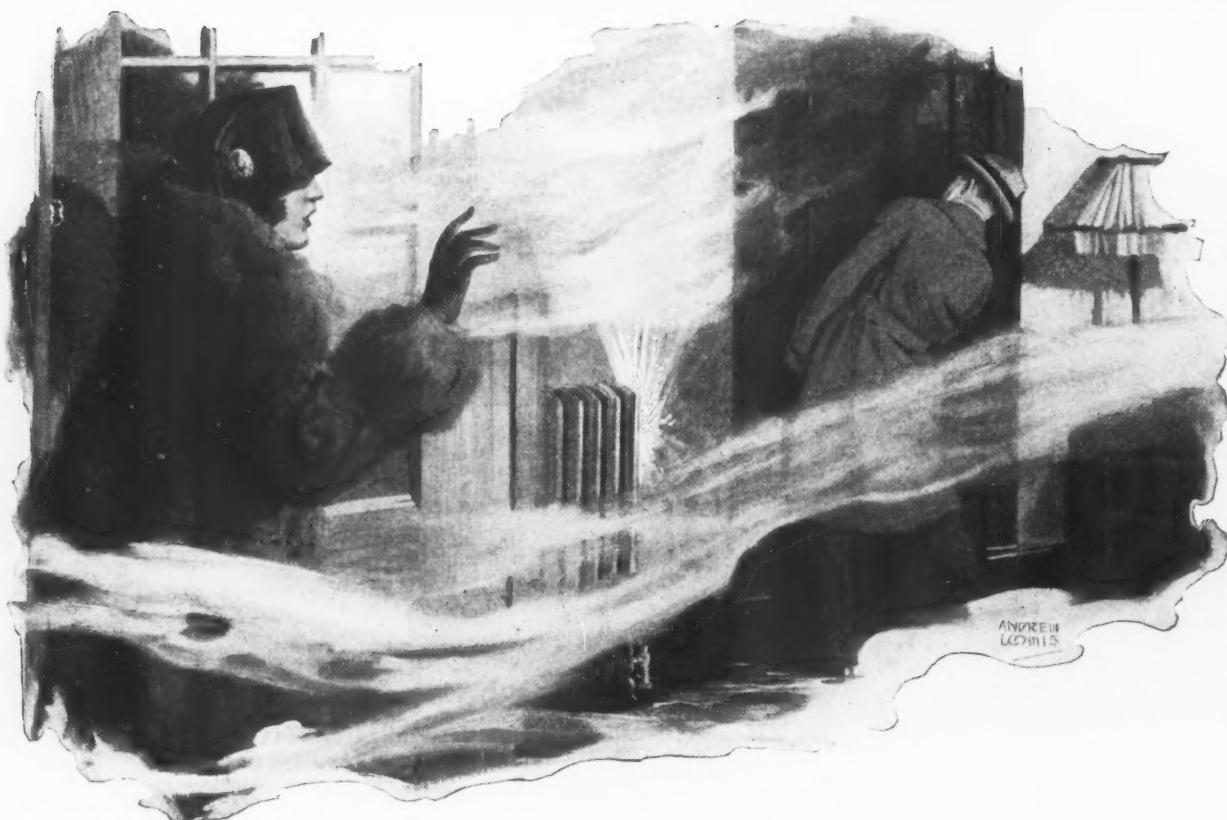
FRANTZ MANUFACTURING CO.
STERLING, ILL.

The stack of labels produced in the Frantz factory daily, each backed by an unlimited guarantee.

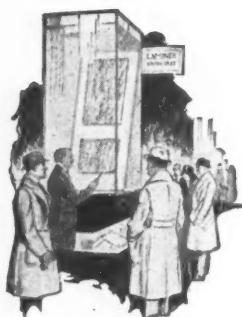


"Distinguish the Hardware by the Label"





If a steam pipe burst— what would it do to the door?



SINCE originated a year ago by the Forest Products Laboratory, University of Washington, this famous Laminex water test has been successfully repeated by Dayton Sash and Door Company, Dayton; McPhee and McGinnity, Denver; Horiman Company, New Orleans; Tacoma "Own Your Home" Exposition, Tacoma; Cole Manufacturing Company, Memphis; McCauley, Brooklyn; California Industrial Exposition, San Francisco; South Texas Fair, Beaumont; and other leading door distributors and building material expositions. Under this rigorous test, no Laminex door has ever warped or come apart!

EVEN THE STEAM from a broken radiator can not make Laminex doors stick or jam!

Common doors, under such abuse, will warp and twist and swell tight. Steam blisters their surface, leaving an ugly defect. The doors *must* be planed down and rehung!

Laminex, however, has been subjected to heat, water and strength tests at the University of Washington—has survived warehouse fires that twisted common doors out of shape—has gone through floods—and come through without warping or twisting!

Laminex is made of old-growth Douglas fir—built up by a crossing process called "lamination"—much different from doors with solid stiles and rails which have no counter-check against warping. By uniting layers under tremendous pressure with the waterproof cement, we put amazing strength into Laminex.

Progressive dealers everywhere stock Laminex. Send for our free monograph for architects and builders. We will also send actual sample of Laminex wood so you can make the famous Laminex water test for yourself.

THE WHEELER, OSGOOD COMPANY, Tacoma, Washington

Sales Offices: New York,
Memphis, Los Angeles,
San Francisco, Spokane,
London, England

Manufacturers of
Laminex Doors
Wood Doors and
Fir Sash

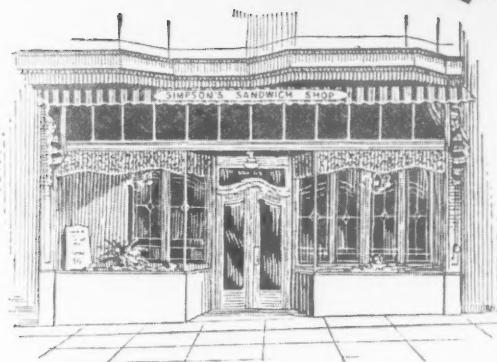
LAMINEX DOORS

WILL NOT SHRINK, SWELL OR WARP

Armstrong's Linoleum

for Every Floor in the House

Look for the
CIRCLE A
trade-mark on
the burlap back



This is the Simpson Sandwich Shop, in San Francisco, Calif. The floor is Armstrong's Marble Inlaid Linoleum, Pattern 71, cemented over a deadening felt lining on a subfloor of concrete. Installation by the Redlick Newman Company.

Have You the Current Specification Book?

The fourth completely revised edition of "Armstrong's Linoleum Floors," the architect's and builder's linoleum handbook, contains 36 pages of data, including specifications for laying, tables of gauges and weights, and colorplates. Bound in 8½ x 11-inch manila folder. Free to any contractor upon request.

The Armstrong specifications are also contained in the Nineteenth Edition of Sweet's Architectural Catalog, pages 512-517.

Floor Beauty in the Smart Shop

HOW quickly an appropriate linoleum floor can make over a simple little refreshment shop! Take away this floor of Armstrong's Marble Inlaid, and half the appeal of this place is gone.

This pattern of red-brown-and-yellow-streaked gray marble, interspersed with six-inch blocks of black, is one of a score and more of fine new designs in Armstrong's Inlaid Linoleum of special interest to the architect. These designs give you color and design in floors at moderate cost. Any linoleum floor can usually be completely and permanently installed for from 25 cents to 50 cents a square foot.

Every shop, store, restaurant, and office can afford to have a beautiful linoleum floor, quiet, comfortable, long wearing, and easily maintained. If you are not familiar with the fine patterns available in Armstrong's Linoleum, ask for the 1925 edition of the Armstrong Pattern Book, which shows colorplates.

Armstrong Cork Company, Linoleum Division, Lancaster, Pa.



"Built For the Years" of
WESTERN RED CEDAR

Lovely home of W. H. Miller,
American Lake, Wn. Frederic
and Stanley T. Shaw, Archi-
tects, Tacoma, Wash.

Every Builder Should Know This Wood and How to Use It

Easier sale or rental follows when you build of Western Red Cedar from the Pacific Northwest—"The Wood that Nature Armed Against Decay." Home buyers are learning rapidly about this unusual wood which insures exceptional durability with low upkeep expense.

Western Red Cedar is one of the most durable woods known. It is proof against rot and insect attack of all kinds. It contains no pitch or resin. It works with the greatest ease. It positively does not shrink, warp or buckle. It nails well and it accepts paint beautifully.

For siding, roofs, all exterior trim, one-piece shutters, for all uses involving exposure to weather or contact with soil, and also for some interior uses, Western Red Cedar offers more than any other available wood.

Leading yards stock Western Red Cedar from the Pacific Northwest. Any yard can get it readily. Mail the coupon below today for valuable information on uses for this money-saving wood. No cost; no obligation.

Red Cedar Lumber Manufacturers' Association

4849 Stuart Bldg., Seattle, Wash.

MAIL THIS NOW!

Red Cedar Lbr. Manufacturers' Assn.
4849 Stuart Bldg., Seattle, Wash.
Please send me full particulars about Western
Red Cedar.

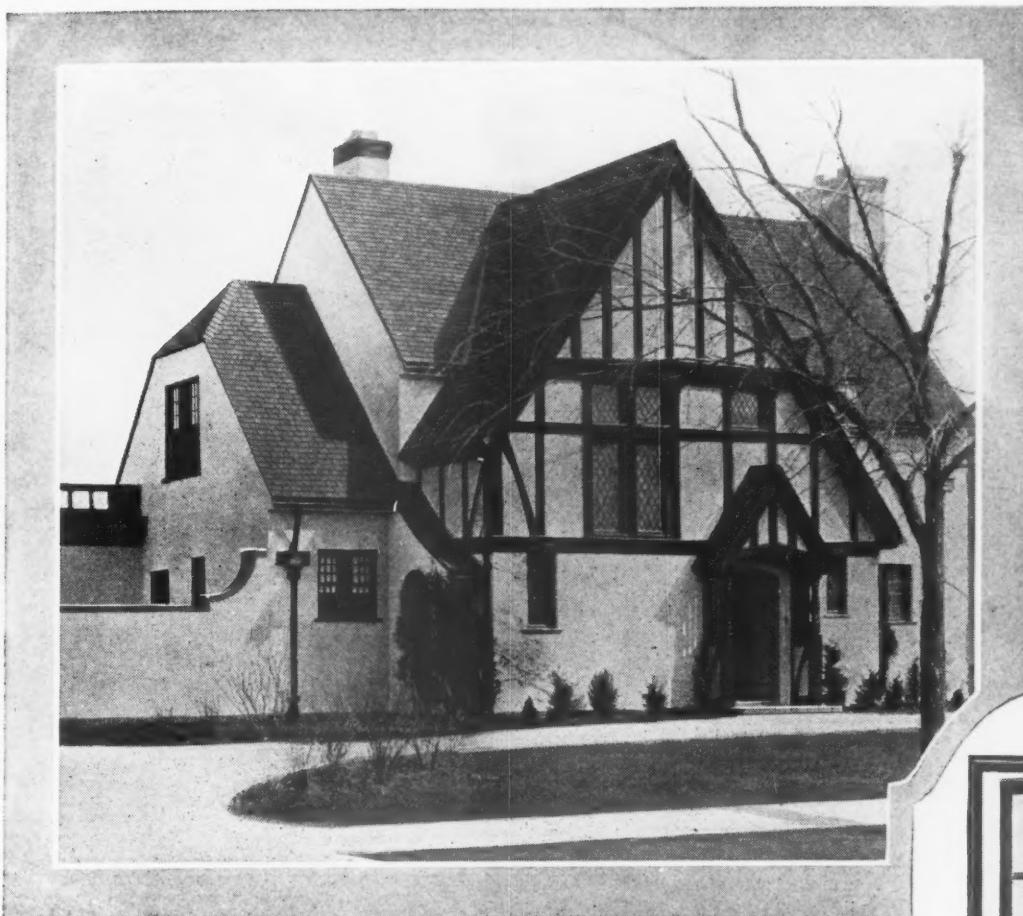
Name.....
St. and No.....
City.....
State.....

3-25



Western
RedCedar

"The Wood That Nature Armed Against Decay"



CRITTALL

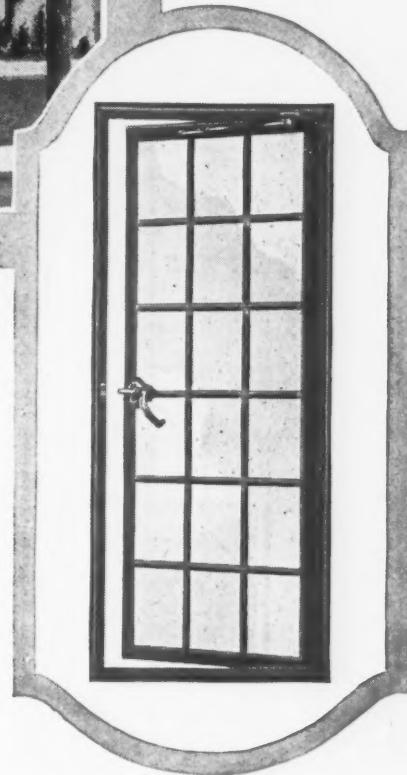
Standard Steel Casements Attract Buyers and Stimulate Sales

The use of Crittall Standard Steel Casements lends a distinctive appearance to a home that immediately lifts it above the average. Prospective buyers are first attracted by their charm, then quickly sold through their practical utility.

Crittall Standard Casements can open either in or out, and when properly installed are guaranteed weather tight. No weatherstripping is required. Hardware is of solid bronze, finished a beautiful dark statuary color. Glazing may be either clear or leaded glass.

Quick sales and complete and lasting owner satisfaction are factors which will readily appeal to every home builder. Insure fast turnover of your completed houses by installing Crittall Standard Steel Casements.

Illustrated Catalogue No. 2-24 giving sizes and types may be had upon request. Screen details are also shown.



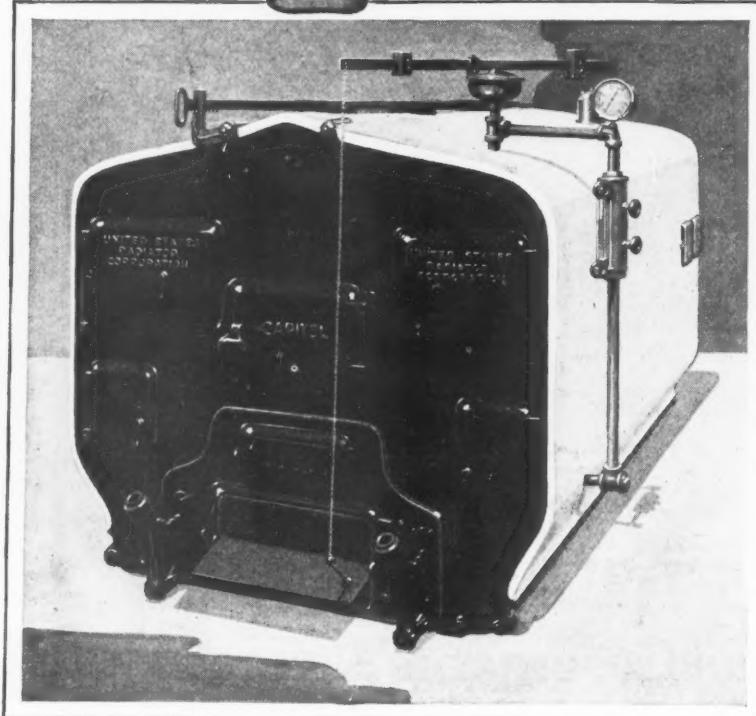
Crittall Standard Steel Casements are made of Crittalloy—The Copper-bearing Steel.

Crittall Cottage Casements

Are standard in size and design and low in cost for use in small residences, apartment houses, etc. They have the usual advantages of steel over wood in that they can be easily operated under varying weather conditions. Made to open out only. Ask for Cottage Casement literature.

CRITTALL CASEMENT WINDOW COMPANY, Manufacturers
10953 HEARN AVENUE, DETROIT, MICHIGAN

Capitol



Capitol smokeless Boilers are recognized by architects, engineers and heating contractors as unquestioned standards of efficiency.

They conform to the smoke ordinance of any city in the nation and burn fuel with the utmost economy.

Like all Capitol Boilers they carry the broadest written guarantee in the heating field.

You can specify them with absolute confidence because we insist upon sharing the responsibility.

UNITED STATES RADIATOR CORPORATION
General Offices, Detroit, Michigan

Boilers



Such Beautiful Clothes Closets!

To win the favor of the housewife, the modern builder must pay particular attention to the matter of clothes closets. Attractive, convenient closets have closed many a sale when the decision depended upon the woman's choice.

It will pay you well to send for the Knape & Vogt booklets on Beautiful Clothes Closets. They show exactly how to increase closet capacity and convenience. How to save space and reduce building costs several hundred dollars on the average home by installing inexpensive Knape & Vogt Clothes Closet Fixtures.

These informative booklets are yours for the asking. Return the coupon today.

*Any home old or new
can have them*

Directions for modernizing old closets as well as plans for new ones are included in these booklets.

*Contractors!
Builders!
Home Owners!*

Write for these two booklets



This is all you buy

This simple inexpensive fixture is all you need to duplicate the beautiful closets shown in our booklets. Sold in hardware stores everywhere. If unable to locate dealer in your territory, order from us direct.

PRICES

14 inch	\$4.00	22 inch	\$5.20
16 inch	4.30	24 inch	5.50
18 inch	4.60	26 inch	5.80
20 inch	4.90	28 inch	6.10

**KNAPE & VOGT MFG. CO.
GRAND RAPIDS, MICH.**

**KNAPE & VOGT MFG. CO.,
Grand Rapids, Mich.**

Please send me your Free Booklet, "Beautiful Clothes Closets," and your free blue print folder, "Plans for Modern Clothes Closets," showing many different installation plans.

Architect Contractor Builder

Name

Address

City



Herringbone Doublemesh

Smallest mesh.
Least plaster waste.
Most rigid of all metal laths, weight for weight.
Made in painted, galvanized or copper bearing steel and in Armco Ingot Iron.

Passing Years Cannot Mar Herringbone Interiors

PASSING time deals kindly with walls of Herringbone construction.

Cracking, checking and loosening of plaster are unknown in spite of sudden jars or slow settling. The walls are solid—permanent—as enduring as the building itself. With this advantage the fire-resisting qualities of Herringbone construction must not be forgotten, nor the saving in plaster, where Herringbone is used.

Learn more of the real economy of Herringbone Doublemesh construction, the cost of which, including labor, is now practically on a par with that of ordinary wood lath. Our nearest branch will gladly send samples and full information. And ask for your copy of the new GF Herringbone Handbook—a splendid addition to your reference files.

Other GF Materials:

Self-Sentering—A combined form, lath and reinforcement.

Trussit—A reinforcement for solid partitions.

GF Expanded Metal—A concrete reinforcement.

GF Steel Tile—For concrete floors.

GF Steel Lumber—Used in place of wood joists and studs.

GF Steel Channels—For fireproof partitions and ceilings.

GF Peds—Spot grounds for attaching trim to concrete and plaster.

GF Duplex Bridging—For wood joist floors.

GF Waterproofings—For concrete and masonry.

Write for illustrated literature.

GF Herringbone Doublemesh Lath

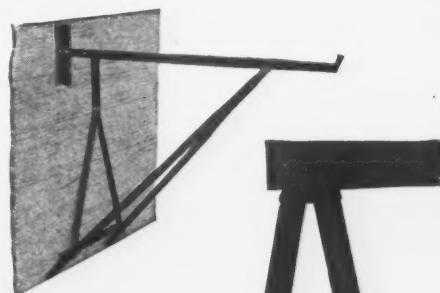
THE GENERAL FIREPROOFING COMPANY, Youngstown, Ohio

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*The Gabriel Double-Leg Scaffold Bracket above.
Detail of Mason Horse Leg shown at side.*

*Know
"GABRIELS"
by comparison*



*The Gabriel Bench Leg assembled.
This is the modern, improved sawhorse.*



*The Durable Gabriel Coal Chute.
Attractive and modern in every respect.*

Modern Products for Modern Building

Advancements in building methods have been made successfully with modern Gabriel Bench Legs and Folding Scaffold Brackets. The clumsy wooden horse constructed on the job and the lumber scaffolding, costly in material and time, are now unnecessary. You can build more safely and quickly with these Gabriel Products.

Designed for maximum strength and durability Gabriel Bench Legs and Scaffold Brackets meet building needs perfectly and economically. The Bench Legs have solid steel jaws and wooden legs, are made in various styles and sizes, and are much more rigid than the old style horse. Gabriel Scaffold Brackets are of heavy rolled steel, joints securely riveted, making them particularly rigid and strong.

Contractors and builders will appreciate the economies of material and labor in these Gabriel Building Products. They are low in cost and through their folding feature make handling and transportation easy as well as reduce storage space to the minimum.

Return coupon for information and prices.

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Bellevue Ave., Detroit, Mich.

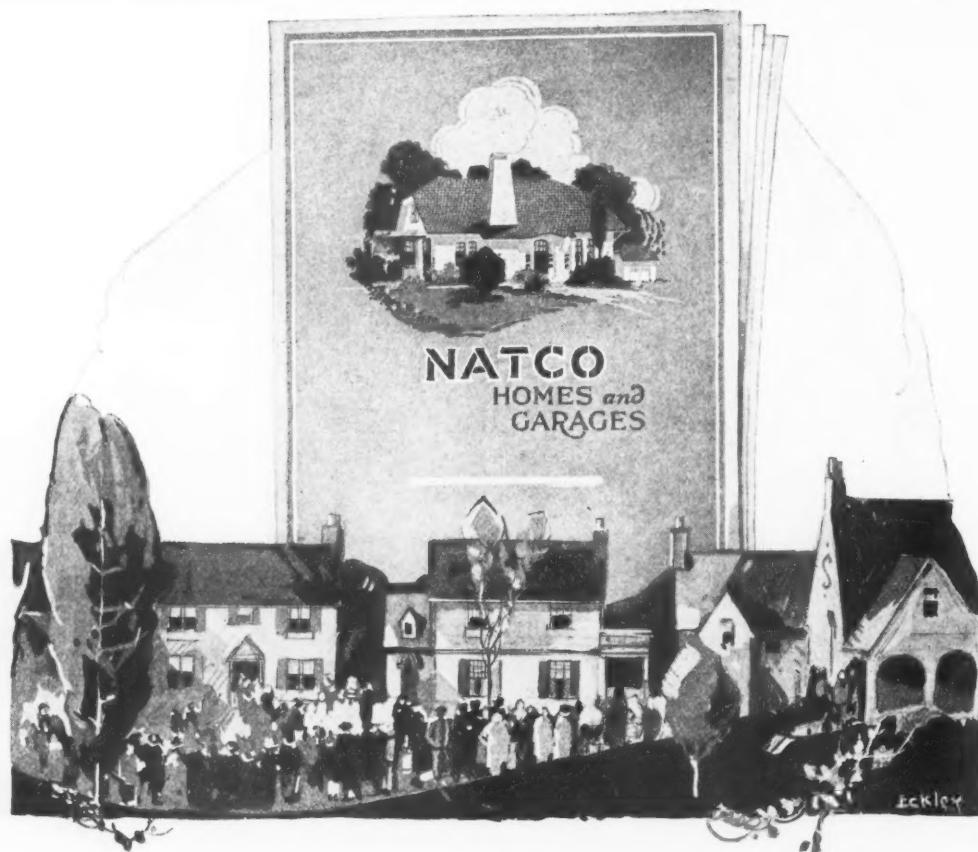
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GABRIEL STEEL COMPANY
Bellevue Ave., DETROIT, MICH.

Send me information and prices on Gabriel Bench Legs, Scaffold Brackets and Coal Chutes.

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THOUSANDS READ IT EVERY YEAR

That the Natco Home Book is a popular guide for home builders is a fact that has been proven over and over again every year for many years. Many of your own prospects are probably familiar with it.

The Natco Home Book is featured in Natco advertising every year in such magazines as House and Garden, House Beautiful, Good Housekeeping, American and Keith's. It is well illustrated with pictures and small floor plans of comfortable homes built of Natco Hollow Building Tile.

You should have a copy of the Natco Home Book on file. Write for the latest edition. It will be mailed you free.

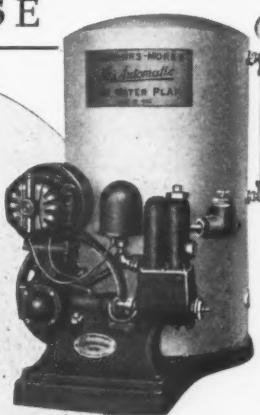
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N A T C O
HOLLOW BUILDING TILE

FAIRBANKS-MORSE

HOME WATER PLANTS

200-GALLONS
PER HOUR
PLANT

*It's
Automatic!*

Water Under Pressure for every home—old or new



Oftentimes the home owner who is building beyond the reach of city water mains does not realize what a simple matter it is for him to have water under pressure. He will welcome the reminder that he can have all the water he needs in bathroom, kitchen, laundry, garage, barn, watering trough—**any place**. Also, where a home is being remodeled, the suggestion of having water under pressure is a timely one.

And yet the cost of a Fairbanks-Morse Home Water Plant completely installed is less than half the usual assessment for a city water main. The operating cost is but a few cents a day.

Fairbanks-Morse Home Water Plants are made in a variety of sizes to

meet all requirements. There is a plant for drawing water from any source—lake, spring, stream, shallow well, deep well, cistern. Furnished in both engine and electric drive. Operation of the electric plants is automatic—self-starting, self-priming, self-oiling.

Fairbanks-Morse quality is a matter of general information. You can be assured that it will reflect credit on your recommendation. An extensive advertising campaign in leading national publications is carrying still farther forward the prestige of the name.

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Just a thin blue thread —but it saves you money

The thin blue thread marker that runs in the center between the strands of H. & A. "Blue Heart" Manila Rope adds nothing to its strength. Yet it is a symbol of long-wearing rope.

It is your assurance when you buy, of getting exceptionally good rope—rope that will prove its worth in long wear. Cheap rope, as users everywhere are coming to realize, is a poor buy in the long run. It wears out quickly and costs time and money to replace.

The best grade manila rope, on the other hand, more than pays for itself in long, dependable service. Make sure of getting such rope this way before you buy.

Untwist the strands. If you find a thin blue thread marker—the "Blue Heart"—running in the center between the strands, then you may be sure of these facts.

What the "Blue Heart" signifies

The "Blue Heart" marker means that the rope is genuine H. & A. "Blue Heart" Manila Rope spun from high grade, pure selected manila fibre by rope makers with

over half a century's accumulated experience.

The "Blue Heart" marker means that the rope is genuine H. & A. "Blue Heart" Manila Rope spun from high grade, pure selected manila fibre by rope makers with over half a century's accumulated experience.

It means also that in any size, on any job, the rope will wear longer and deliver without fail the strength you have a right to expect. For the selected fibres of H. & A. "Blue Heart" Manila Rope are drawn, spun, laid and properly lubricated so as to insure the smooth working of every fibre, yarn and strand.

Buy rope scientifically. Know beforehand what you are getting. Untwist the strands and look for the "Blue Heart"—our registered trade mark that assures you of dependable rope value.

Guarantee

H. & A. "Blue Heart" Manila Rope is guaranteed to equal in yardage and exceed in tensile strength the specifications of U. S. Government Bureau of Standards. Any H. & A. "Blue Heart" Manila Rope found not to be as represented will be replaced.

The Hooven & Allison Company
"Spinners of fine cordage since 1869"
Xenia, Ohio



H&A "Blue Heart" Manila Rope

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© 1925, The Hooven & Allison Co.

Selling Houses

TODAY America leads the world in plumbing practice and the conveniences that it provides. Twenty-five years ago it was a fine house that had a tin bathtub with running water. Today, new houses are literally planned and built around the plumbing installation. It is within the experience of every builder that many people liking a house have decided to buy or not to buy, just because of the baths and plumbing arrangements.

Experience is teaching people that the plumbing if not properly designed and installed, may represent a big and continuous expense. If to this experience educational and advertising writings are added, it becomes apparent why buyers of houses examine in a more or less expert fashion the quality of the plumbing work.

In selling houses you will find the best brass pipe—Alpha Brass Pipe—a great help. It has all the advantages of ordinary good brass pipe over iron and steel pipe, plus other advantages. It bends and threads easier than ordinary brass pipe which is an advantage for the plumber. It has more copper which makes it more durable than ordinary brass pipe even under adverse conditions. It has a better surface finish that takes nickel plating better than ordinary brass pipe.

Alpha Brass Pipe is a high spot in the construction of any house which includes it. If properly installed it will never give trouble but will be a continual source of satisfaction. If you want to know why Alpha is the best pipe, let us send our book—Alpha Brass Pipe.

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ALPHA BRASS PIPE
 contains only Alpha crystals. It is a fine-grain, dense, ductile and tough metal. It makes perfect bends, threads and cuts easily and offers even greater resistance to corrosion than ordinary brass pipe. Full details in our Alpha Brass Book.



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 Please send me free of charge a copy of your book on Alpha brass.

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FIRM _____

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0320-15

"Millions of California Pine window sash and frames are in use in American homes."

Window wisdom

Window sash and frames must withstand the extremes of weather wear, plus handling and friction—a most exacting demand upon the wood of which they are made. Accurate workmanship is paramount; and it is essential that this accuracy be preserved during the life of the sash and frame.

Millwork accuracy depends primarily upon the texture of the wood used. Soft-textured California Pines are naturally qualified for precision millwork. They cut easily, either with or across the grain, without splitting. They surface smoothly on four sides. Their uniformly even grain allows the

cutting tool to produce sharp edges, which cast the contrasting shadows that accentuate the design of the building.

California Pine sash and frames preserve the structural form and design of the window unit, because these pines have the minimum tendency to expand and contract. They withstand the severe strains of opposing elements, as, for example, zero temperature outside the home, and 70 degrees inside; or, when the outside window woodwork is rain-beaten, while the inside is dry.

The very light weight of these

pines makes sash operation easy, at the same time lessening the cost of balance weights, or, reducing the strain on mechanical sash balances.

Sash and frames are painted inside and out. Paint protection adds to the natural wearing qualities of wood. California Pine window parts paint perfectly, their smooth surfaces readily take the paint and hold the protective coating tenaciously. The light, natural color of these pines permits any exterior color treatment, and the finest interior window finish—with assurance of lasting, unblemished beauty.



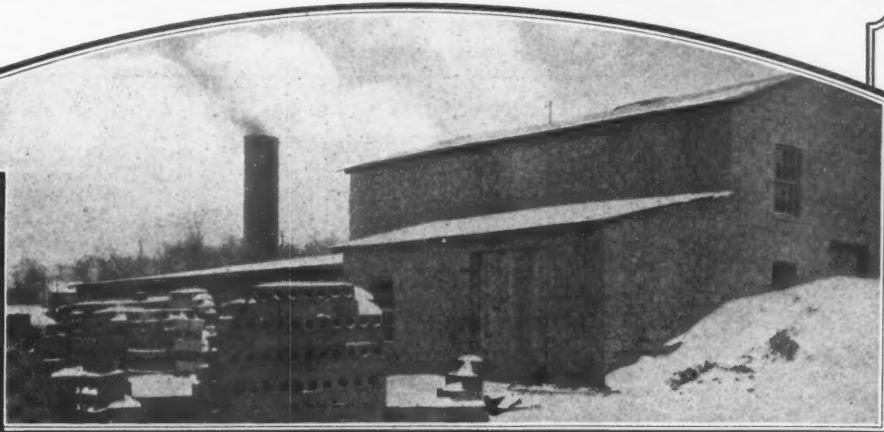
Send for this free illustrated booklet

Sash and frame manufacturers find the qualities of California Pines parallel those of the Eastern white pines, the supply of which has been largely depleted by past demand. Many of these manufacturers now use California Pines, the supply of which is ample to meet the demands of the next two centuries.



**California
WHITE & SUGAR PINE
Manufacturers Association**
CALL BLDG., SAN FRANCISCO
Also producers of CALIFORNIA WHITE FIR
CALIFORNIA DOUGLAS FIR • CALIFORNIA INCENSE CEDAR.

Mr. Albert Dahl and his DUNTILE manufacturing plant at Elwood City, Pennsylvania, in which he is making a striking success.



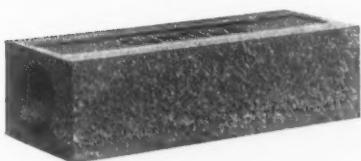
Out of
every
walk
of
life

The Contractor Triples his Profits!

Nearly 50% of the Many highly
Successful Manufacturers of
DUNTILE
formerly were Contractors



This church completely built of DUNTILE, is typical of the many larger structures for which Albert Dahl & Son are supplying the materials at a cost approximately 30% less than brick.



DUNTILE, the perfected concrete building unit, combines the advantages of light weight, great strength, unusual insulating and fireproof quality, and extreme economy. Several standard sizes made on one production machine.

If you would like to consider the possibilities of a thriving, steadily growing manufacturing business of your own, you will find real food for thought in the splendid success Albert Dahl & Son are making in the manufacture of DUNTILE.

Formerly a Successful Contractor

As an example of what calibre of men become DUNTILE manufacturers, consider that Mr. Albert Dahl is one of the old school of master craftsmen—thorough, painstaking, conscientious. As a general contractor, and later specializing in road contracting, he was very successful. Then DUNTILE came his way and aroused in him the enthusiasm that only a builder who knows the game from A to Z could have for this vastly superior concrete building unit.

Having decided that his big future lay with DUNTILE, Mr. Dahl disposed of all his contracting machinery at a sacrifice, and in April, 1924, he and his son (a recent university graduate) started operations in their new DUNTILE plant.

40% Greater Volume Than Expected

Very recently Mr. Dahl stated that while they had expected big things of DUNTILE, their first nine months of operation had brought them 40% more business than the high mark set for themselves. Such achievement is more readily understood when you consider this:

DUNTILE Reduces Permanent Building Costs to Level of Frame

Everyone is interested in lower building costs. And DUNTILE not only reduces costs but it opens the way to better construction. It is perfectly suited to the complete construction from foundation to roof of every type building.

200 Successful Plants Point Way for YOU

This announcement can be valuable to you in only one way—by causing you to investigate fully the possibilities of a DUNTILE plant of your own. Fortunately that is very simple for the experiences of more than 200 others have provided an immense fund of FACTS concerning the unlimited market open to you—the many great structural advantages of DUNTILE—the wide margin of profits over all competition—the amazing manufacturing efficiency of the Standardized DUNTILE Plant—proven facts that are yours for the asking. Merely sign and mail the coupon. But by all means do it NOW; do not wait until someone else has taken advantage of the opportunity that today is YOURS.

W.E.DUNN MFG.CO.
415 West 23rd St., Holland, Mich.

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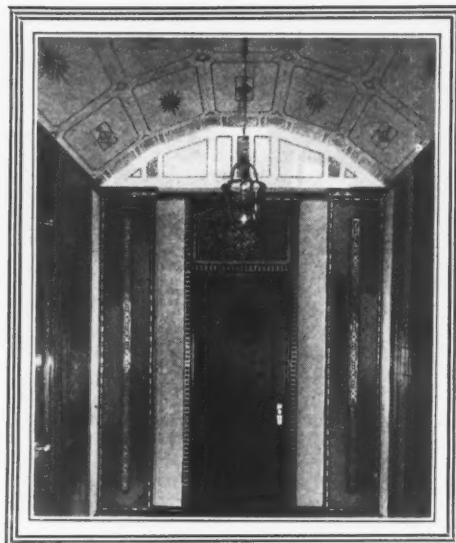
415

through your book "BASIC FACTS" the facts and figures that prove how average ability and some capital wins manufacturing independence for those supplying DUNTILE in each community. Also show me how I can manufacture DUNTILE in a plant of my own at a profit of 30% to 60%.

Name.....

Street Address.....

City..... State.....



An example of artistic Vitrolite decoration in rich colors, designed by the Service Bureau of The Vitrolite Company. Architects may view this exhibit at our New York Offices, Pershing Square Building, 42nd Street at Park Avenue.

This foyer has unusual walls and ceilings

WHAT do you think of a standard material for permanent surfaces which has absolutely no limitations in its application or in its decorative effects? That is what Vitrolite offers.

It comes in any size you may wish to specify up to 5 feet by 10 feet.

The slabs vary in thickness from 5-16 of an inch up to one inch.

In marble you are limited to $\frac{3}{8}$ of an inch as a standard thickness. In Vitrolite you use greater thickness only where it is needed. For instance, in standard ashlar construction, the thicknesses vary from 5-16 of an inch to 7-16 of an inch, depending upon requirements.

It is in the plain colors, such as pure white that Vitrolite is most commonly used in bathrooms, kitchens and toilets. Besides white [and let us say that the quality of Vitrolite white is of rich purity] you have black that is like jet, ivory that looks like polished ivory, and a soft grey, almost a neutral tone, which lends itself to smart color decorations as used in Tea Rooms and Restaurants.

Upon this material, as a border or design, may be placed any color or

combination of colors imaginable in any design. For example, any of the formal motifs of the periods can be carried out in colors. Or, as in one instance just finished, a panel has the colorful design of a Chinese pheasant. Another has the family crest reproduced perfectly.

In connection with the use of designs and colors The Vitrolite Company maintains a Service Bureau prepared to give technical service. Besides stock patterns of decorative work, special designs are prepared at very little expense, because the Vitrolite processes are so simple. Not only does this department prepare suggestions for appropriate treatment, but they are equipped to carry out your own suggestions even to the smallest detail.

To insure perfect installation, Vitrolite is installed by our own organization, which is expert in this work. They use a special cement which acts as a cushion, taking care of impact or change in temperature.

Where but in Vitrolite can you get a surface material that is permanent—that will never craze like tile or grow discolored and perish the way marble does?

VITROLITE
Better Than Marble

THE VITROLITE COMPANY

Offices: 133 West Washington Street, Chicago

Factory: Parkersburg, West Virginia

Atlanta, Baltimore, Brooklyn, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Dallas, Denver, Detroit, Kansas City, Los Angeles, New Orleans, New York, Omaha, Philadelphia, Pittsburgh, Portland, Roanoke, San Francisco, Seattle, Springfield, Mass., St. Louis, St. Paul, Tulsa, Montreal, Toronto, Havana, London, Manila, Osaka, Mexico City, Shanghai





The Man Who Stood Still

THE man who stood still! You pass him on the street every day. If you take one moment now, you can easily recall at least one man who reminds you of this picture. Day after day he follows in the same groove. In good health and in bad he has got to work. Growing older and older, he sees ahead no relief from the ceaseless toil that he has known all through his life. There is no opportunity for him to cease for a single day the everlasting "humdrum" that he has known for so long. He is the man who stood still.

When he had the chance he failed to seize it. He allowed other men, no smarter, no abler, no better than he, to crowd him out. One by one his fellow workers passed him by to better and more profitable work. They left

him always standing on the threshold of success. But they left him behind. He heeded not the beckonings of opportunity. He is the man who stood still.

And now at sixty, at seventy or at eighty years you may see him any day if you care to look—a good carpenter, a good builder, a good contractor perhaps—but that's all; good in the sense that he can do certain things simply because he has done the same thing over and over again—but not good enough to try the new difficult work, the modern up-to-date jobs; the kind that pay good money. No, he cannot do these things—he never learned how. He is the man who stood still.

You don't want to stick to the plane, the saw and the hammer all your life. If you are a contractor or a builder don't you want bigger work than just barns, sheds and now and then a house or two?

If you are a draftsman, an apprentice or assistant in an architect's office you don't want to remain in your present position any longer than you have to; you want to make your present work the stepping stone to a bigger position, which will be your life's work.

You don't want to stand still and see your friends step ahead to enjoyable, well paid, independent work simply because they "snap up" the same opportunities, the same chances that are offered you. It is the natural ambition of man to want to keep up with his fellows.

The only way that you or any other man can keep up is through study—study of your chosen work. If there is a certain part of your work that you don't thoroughly understand then some time when that kind of work has got to be done some other man is going to step up ahead of you and do it. He learned how. **KNOWLEDGE IS THE GREAT LEVELER.** There is no true independence where there is lack of training.

You have the chance now within your grasp to get this necessary training. This advertisement is an absolutely direct appeal to you. No matter how good a position you hold now—no matter how much work you are getting—no matter how well you are paid for it—this advertisement holds as much interest for you as the man who is actually looking for work.

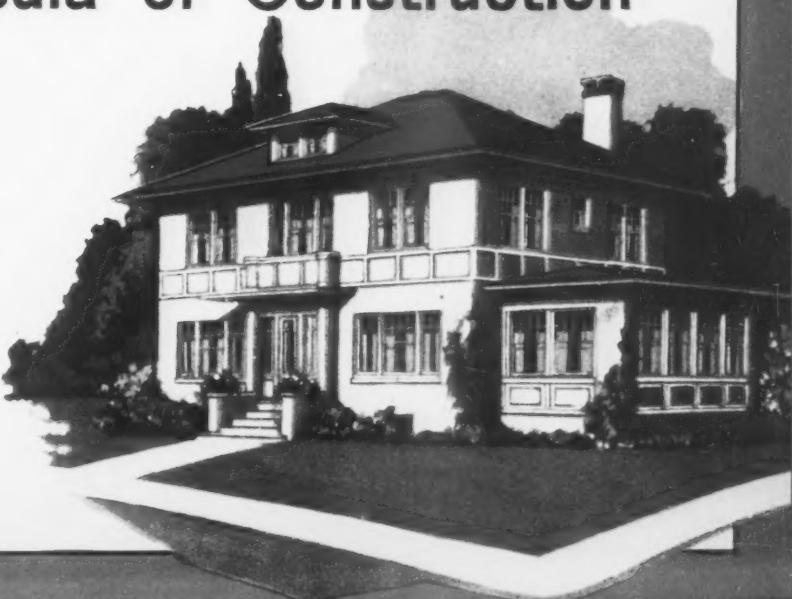
At no risk to you—without the slightest obligation on your part—we offer you the really great opportunity of perfecting yourself in your life's chosen work. Don't pass this page by until you have made up your mind to give the rest of this advertisement careful study. Look at the picture again at the top of this page—look at it carefully. You owe it to yourself and to those who may be dependent upon you to take advantage of every possible chance for bettering yourself.

You cannot afford to be the man who stood still

Radford's Cyclopedias of Construction

FREE

We will send free of all extra cost three plan books of over 300 plans of buildings. One complete set of blue printed working plans and typewritten specifications of one of the houses illustrated in the three books of plans. We will also send with this Cyclopedias one year's subscription (12 numbers) to the American Builder, the world's greatest building paper.



He Waited too Long

"If I only had this set of books twenty or thirty years ago, they might have changed my whole life. The knowledge in the big CYCLOPEDIA would have enabled me to increase my earning power, to take on big work, paying big money, and possibly have helped me to make a fortune in the building business."

HUNDREDS of letters like the above have come to us, breathing between the lines the same pathetic story of regret—showing how hard it is for the untrained man to really get ahead in life. The opportunity is yours NOW, and the way is easy. Don't wait too long. Don't wait at all. Read the terms of our NO-RISK, Guarantee Offer over again, and sign and mail coupon today. You risk absolutely nothing, and you will reap the benefit ever afterward. The building trade has as much use for an exclusive library relating to carpentry, building and architecture as the professional men, such as lawyers, doctors, ministers and teachers have for their particular libraries, to which it is necessary for them to refer and without which they could not continue their practice. The building trade has more possibilities and the successful contractor and builder can, with the use of books, make more money and attain a higher position in the community than the average professional man. The line which has heretofore been drawn between the professional man and the mechanic is just about wiped out and it has been done by the use of books.

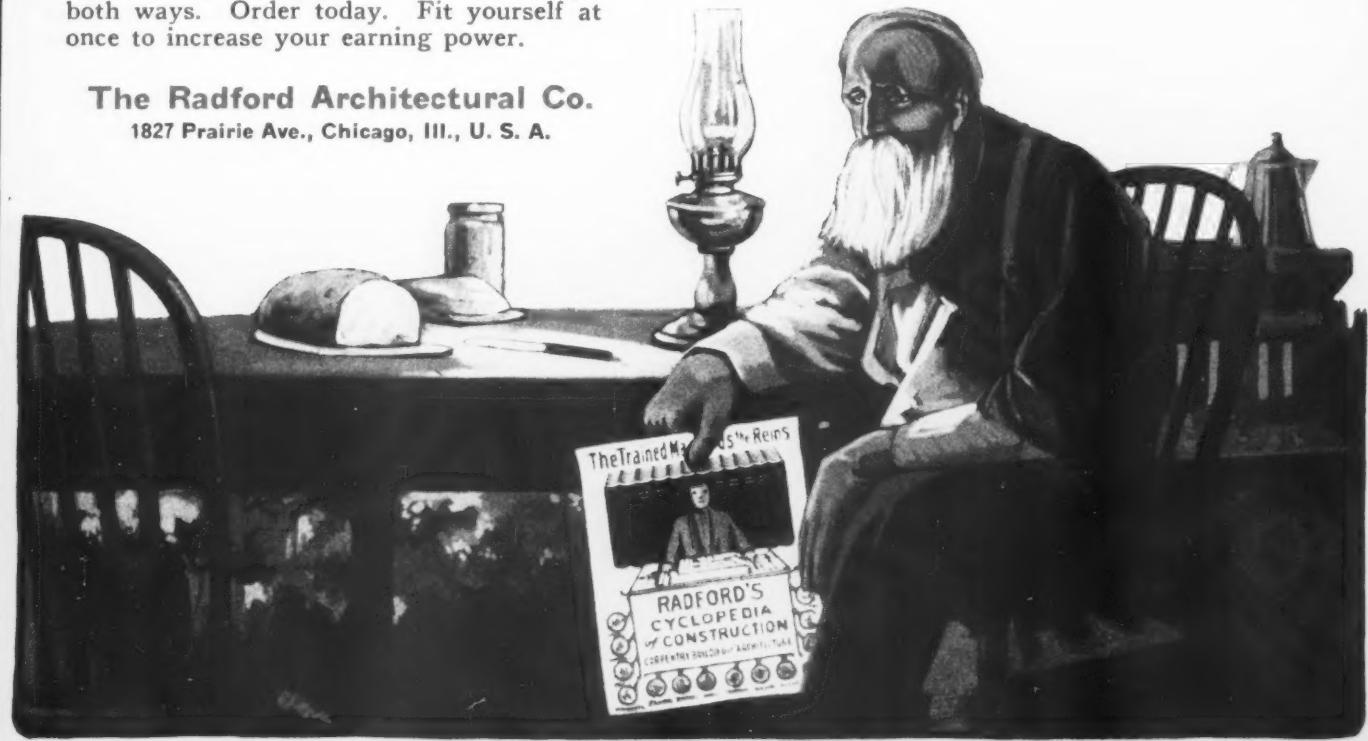
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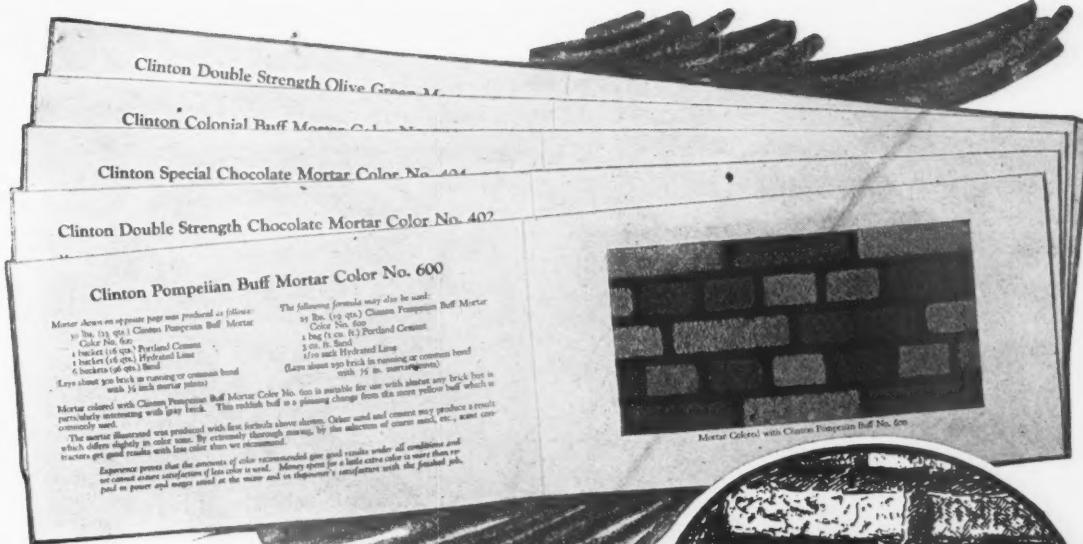
If we receive your order at once, we will send with this Cyclopedia one year's subscription (12 numbers) to the American Builder, the world's greatest building paper. We will send free of all extra cost, one complete set of blue printed working plans and typewritten specifications of any of the houses illustrated in three Books of Plans, which we also send to you free of cost, so that you may make your selection. These plans and specifications are as complete as those charged \$50.00 to \$75.00 for by many architects. These plans will be very valuable to contractors, builders and daughtsmen. The only reason we can offer to do this is because we have the largest architectural establishment of its kind in the world, and are able to produce these complete blue printed working plans and specifications at the very lowest possible price, and to the purchasers of this big Cyclopedia we are willing to give the benefit. Without American Builder \$1.00 less.

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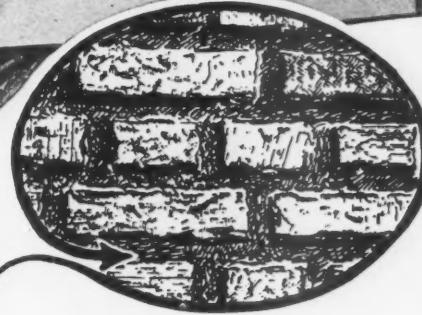
The Radford Architectural Co.
1827 Prairie Ave., Chicago, Ill., U. S. A.





*Send for this information
about "The Vital Fifth"*

*The
Vital
Fifth*



1/5 of Brickwork is Mortar

"THE VITAL FIFTH" can either make or mar the appearance of a brick building. A well chosen shade of color in the mortar joint effects pleasing harmony in the whole wall surface, and is just as essential as the color and quality of the brick themselves.

Furthermore, the character of the Mortar Color must be dependable. It must be exactly uniform from bag to bag and produced by a house with the reputation that only long manufacturing experience can give.

Make sure that you use absolutely dependable Mortar Colors. Clinton Mortar Colors are dependable. Careful study of raw materials, painstaking research, and generations of manufacturing experience — years of service to the building public are behind every ounce of Clinton Mortar Colors.

For practical and detailed information on the choice and use of mortar colors,
address The Clinton Metallic Paint Company, 99 Clinton Road, Clinton, N. Y.

Clinton Mortar Colors

Nature's Permanent Colors—Made since 1887

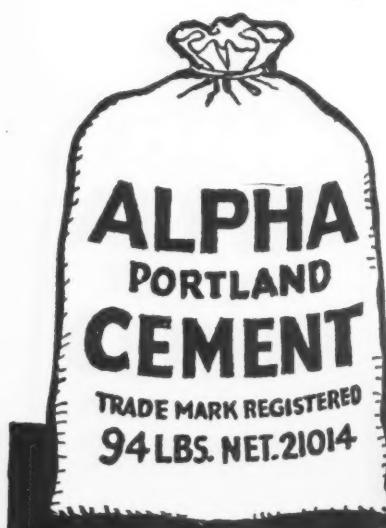
A practical, up-to-date book that develops business



Published in February of this year. Deals with the latest and best practice in making cement improvement around home, farm or business place. 112 pages, freely illustrated.

Just the thing you need in explaining your ideas to the property-owner.

Any ALPHA CEMENT Dealer can give you this valuable book, also other helpful ALPHA Bulletins and Service Sheets. Ask for your copy.



Alpha Portland Cement Company
EASTON, PA. CHICAGO, ILL.

New York Boston Philadelphia Pittsburgh Baltimore
St. Louis Battle Creek, Mich. Ironton, Ohio

use ALPHA cement



No Home Too Small for Tiles

IHE old-fashioned idea that tile roofs are only for pretentious homes is rapidly disappearing. Nowadays it is not uncommon to see even the modest bungalow distinguished by a roof of IMPERIAL Roofing Tiles. Because such roofs last forever without repairs, their slightly higher first cost is unworthy of serious consideration. Moreover, they greatly increase the selling value of any home.

The attractive dwelling pictured above is that of Harvey McQueen, Architect, Dallas, Texas. Its colorful roof of IMPERIAL Roofing Tiles harmonizes delightfully with the Spanish type of architecture, and will provide absolute protection from fire and the elements for generations to come.

IMPERIAL Roofing Tiles

LUDOWICI-CELADON COMPANY

104 South Michigan Avenue • Chicago
565 Fifth Avenue • New York



SANDS LEVELS

Strong and Light!

These aluminum levels have greater strength with less weight. The lenses and spirit-tubes are made of a non-brittle glass that withstands rough usage. And you can use a Sand's all day without tiring. It's ideal for overhead and arm's length work.

Plumb Right

Window frames and doors are **plumb** when you use a Sand's. So are walls and foundations. Sand's accuracy is built-in by factory experts.

Sealed Tight

The spirit-tubes are set and sealed immovably. Sand's accuracy is permanent. You can depend on it. Protecting lenses form a double seal that is dust-proof and moisture-proof.

The Choice of Master Craftsmen

Sand is the "buy"-word for levels with careful workmen everywhere. Sand's Levels have made good on the job for thirty years. They always tell the truth.



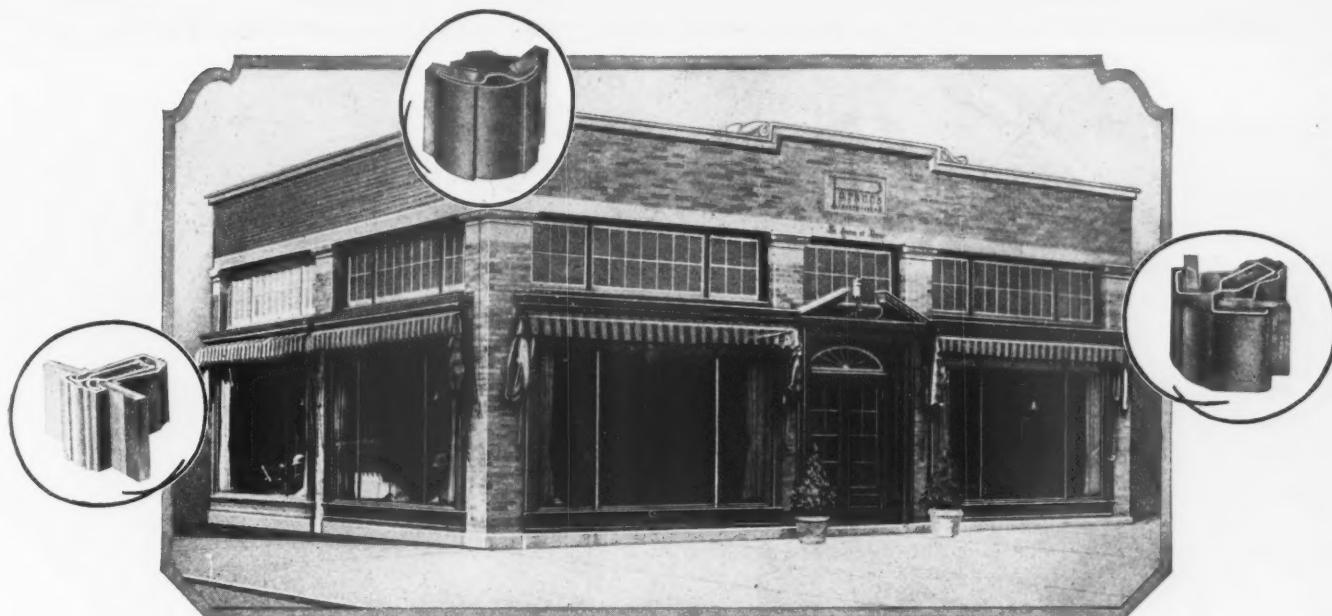
At Good Hardware Stores Everywhere

"Sand's Levels Tell the Truth"

SAND'S LEVEL & TOOL CO.

5847 Fischer Avenue

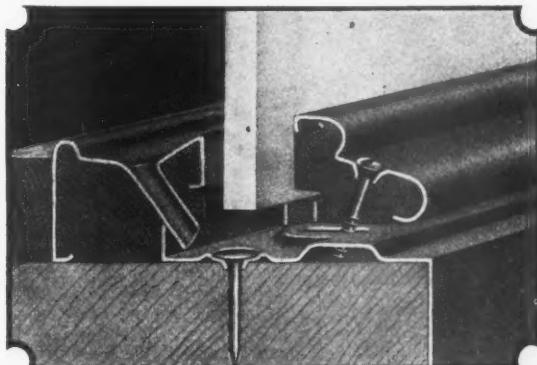
Detroit, Michigan



The Backbone of Steel in Brasco Copper

Behind the glittering copper of the Brasco Store Front is built-up **strength** for super-safety. Every division, corner and reverse bar is reinforced by heavy drawn steel, fabricated into a continuous unit within the heavy gauged copper mouldings. **Only the copper is visible.**

This steel structure is not merely made up of plain steel bars. Each member is specially formed into a shape that will most effectively absorb the direct and reacting stresses to which the bars are subjected. It is an integral part of the design, conforming to the shape of the bar itself.



Brasco Sash, showing the wide grip on the glass and the indirect screw pressure method of fastening. *Brasco sash is also available in the "500" All Copper Construction.*

**Mail this coupon
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Brasco story**

BRASCO MFG. CO., 5029 South Wabash Avenue, Chicago.
Send me your free information on profitable store front work.

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COPPER STORE FRONTS

Standardized
Small Tool
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Saves
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Sterling's "Most Economical"

C. H. Everitt
Buffalo, N.Y.

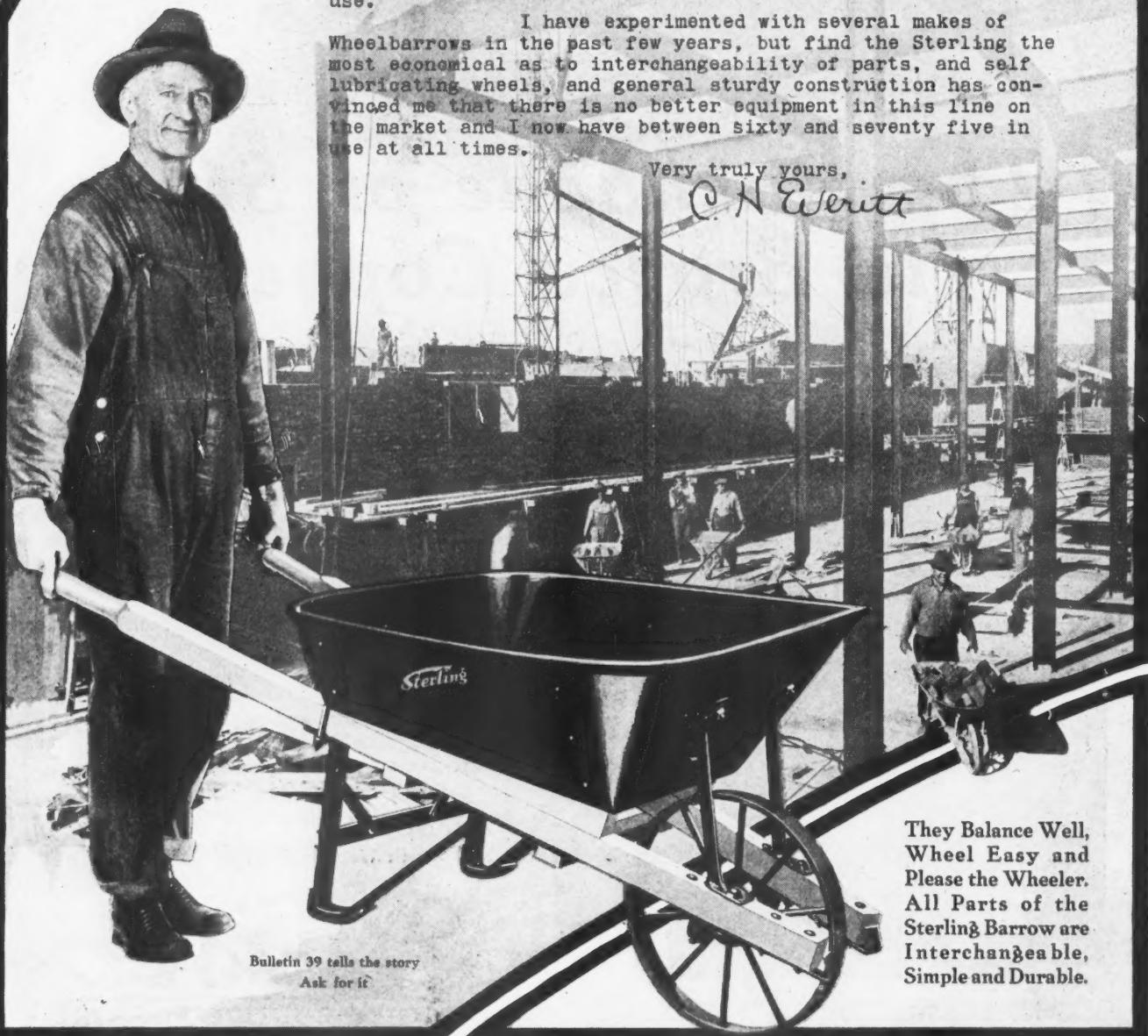
Gentlemen:

Replying to your letter of the 9th inst., I am pleased to advise you that I have been using the Sterling Wheelbarrows and carts for a number of years, due to the fact that they have given entire satisfaction under the most severe use.

I have experimented with several makes of Wheelbarrows in the past few years, but find the Sterling the most economical as to interchangeability of parts, and self lubricating wheels, and general sturdy construction has convinced me that there is no better equipment in this line on the market and I now have between sixty and seventy five in use at all times.

Very truly yours,

C. H. Everitt



Bulletin 39 tells the story
Ask for it

They Balance Well,
Wheel Easy and
Please the Wheeler.
All Parts of the
Sterling Barrow are
Interchangeable,
Simple and Durable.

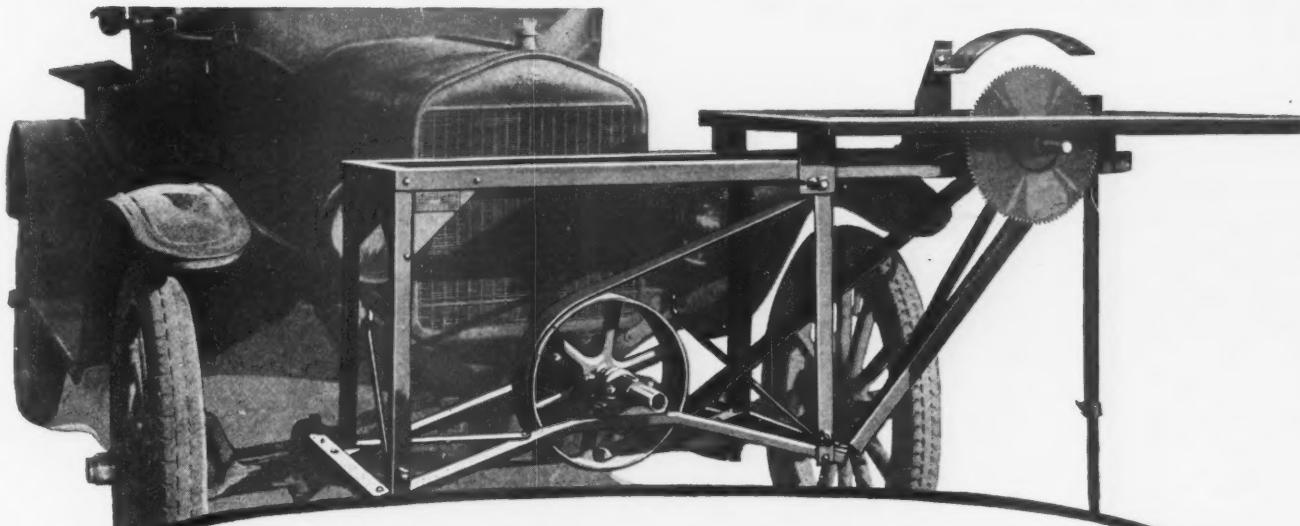
STERLING WHEELBARROW COMPANY

STERLING ON A WHEELBARROW MEANS MORE THAN STERLING ON SILVER

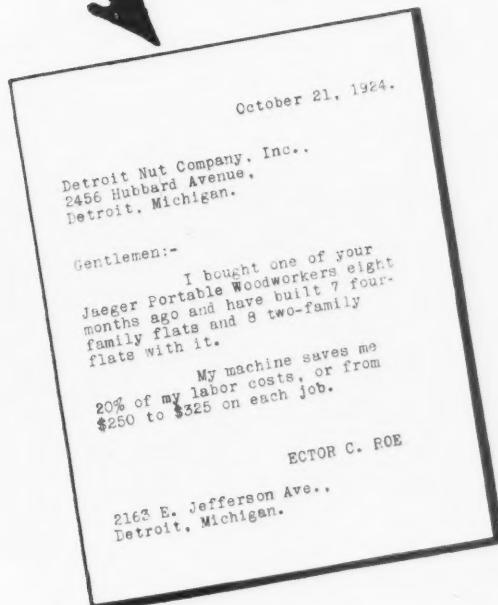
Milwaukee

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STERLING FOUNDRY SPECIALTIES LTD. STERLING WORKS, BEDFORD, ENGLAND

Wisconsin



Saves This Builder \$200⁰⁰-\$325⁰⁰ On Each House



The JAEGER Portable Woodworker, operated by your **Ford** does any kind of sawing quicker and better than it can be done by hand—it cuts compound angles, rips quickly and easily—cuts studding, joists, rafters, sheathing, bridging, etc.,—the same power that hauls your lumber to the job will saw it on the job as you want it and when you want it—Your **Ford** is your power plant—**use it.**

The JAEGER Woodworker can be installed on any model **Ford** in a few minutes. It is rugged, strong, durable and economical to operate. It is connected directly to the crankshaft and the power is not transmitted through the transmission or rear wheels.

The line of JAEGER Portable Machines consists of Woodworkers, Portable Power-take-offs, Generators, Pumps—every one **time** and **labor** saver.

*If Your Ford Dealer Can't Supply You,
Write to Us for Complete Information.*

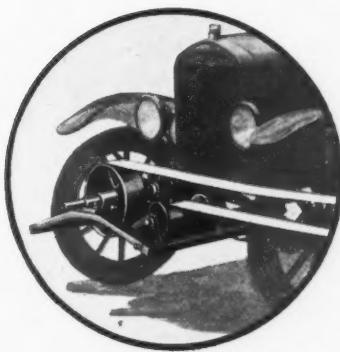
DETROIT NUT COMPANY, Inc.

Manufacturers of

Jaeger Portable Machines

Office and Works, Hubbard Avenue, at Michigan Central R. R.

DETROIT, MICHIGAN



POWER TAKE-OFF

Mix your concrete, Mix your plaster—operate your pump — operate your hoists — for all power jobs.

SMITH
TILT CO. MECHANICAL

SMITH MIXERS

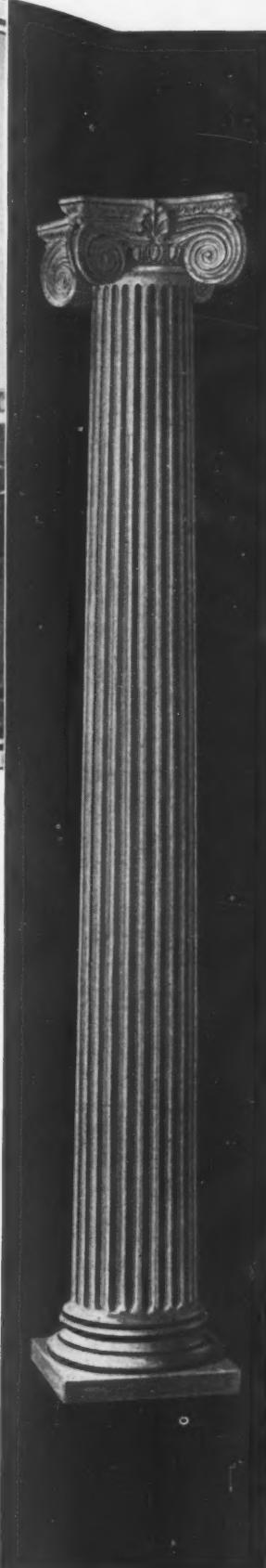
Exchequer Dam Being Built With Powerful "Smiths"

Bent Bros., Inc., are using three Smith 56-S Tilting Mixers in the construction of the Exchequer Dam and Power House in the Merced Irrigation District, California. Some idea of the bigness of the job is given by the following figures.

The proposed height of the dam is 326 ft., its length 950 ft., and its width at base 221 ft. A storage capacity of 280,000 acre feet is planned and two power units will be erected, each capable of producing 16,750 hp. In all, the work will require 380,000 cu. yds. of concrete, all of which will be poured by the three Smith 56-S (two-yard) tilting mixers.

It is on just such jobs as this that big Smith Tilters excel. Their accurate, speedy mixing; their fast discharge; their self-cleaning double-cone tilting drums, sufficiently large to permit the use of small size boulders when desired; their centralized control; their dependability, long life, low cost of operation and maintenance—all these are factors that make Smith Tilters standard equipment for the big job. Send for our latest bulletin.

The T. L. SMITH COMPANY
1026 32nd Street, Milwaukee, Wis.
Sales Offices and Service Stations in all Principal Cities



John Gamble Was a Lucky Man!

**His Contractor used Union Metal
Columns—that Last a Lifetime**

The contractor for Mr. John Gamble's fine residence on Happy Hollow Boulevard, Omaha, didn't take any chances when it came to porch columns.

He bought Union Metal: the Columns that add hundreds of dollars to the value of any building on which they are used.

Made of copper bearing steel. Weatherproof, Fireproof, Everlasting. Diameters 8" to 42"—heights 5' to 42'.



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—A valuable book prepared by architects for everyone interested in better building at lower costs. Sent FREE upon request.

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CANTON, OHIO**

UNION METAL COLUMNS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Design No. 237, Modern Ionic Columns and pilasters shown on residence of John Gamble, Omaha, Nebraska. Architect, Charles W. Rosenberry. One of ten classical designs.

ROME BRASS PIPE

An attractive home in
Glencoe, Illinois.
Messrs. R. C. Hunter
& Bros., Architects.
Rome Seamless Brass
Pipe specified.



For the small house— as well as mansion or office building

What a satisfaction it is for your client to know that decades hence, the little home will still retain its original charm—the water pipes will not leak or need repairing—alterations to floors or walls will never be caused by leaking pipes.

Many people who know the superiority of brass pipe over corroding iron or steel pipe, do not know how little additional it costs to provide permanency in hot and cold water lines.

On the average, three-quarters of one percent added to the original cost of the building will pay for Rome Seamless Brass Pipe in all hot and cold water lines. The saving which results from eliminating repairs and renewals is so great as to dwarf into insignificance the merely nominal increase in original cost.

Specify Rome Seamless Brass Pipe and secure permanency of plumbing lines, freedom from rust-clogged pipes, and protection of interiors from leaking pipes due to corrosion.



**Let us send you this
ROME BRASS PIPE
ESTIMATING CHART**

It contains approved
methods of calculating
required quantities of
pipe for both hot and
cold water installations.



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Branch Warehouse: 3649 So. Racine Avenue, Chicago, Ill.

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[BRILLIANT DIFFUSIVE BEAUTIFUL]



NEW ST. LOUIS UNIVERSITY HIGH SCHOOL, St. Louis, Mo. Barnett, Haynes and Barnett, Architects, St. Louis, Mo.
Diffusion of light through Tapestry Glass in chapel. Design appears in lines of clear glass, field sand-blasted.

TAPESTRY GLASS

Adds beauty and dignity wherever used

MANY notable architects have been quick to recognize the unique qualities of Tapestry Glass. Wherever the maximum of clear, brilliant light is necessary and privacy is desirable, Tapestry Glass offers many possibilities for unusually beautiful effects.

Tapestry Glass has all the strength, purity and clarity of the finest plate. And by a special, exclusive process the surfaces are given a smoothly rounded texture, not unlike fine fabric. These surfaces collect and diffuse light in a brilliant flood, yet they obscure vision.

Plain Tapestry Glass may be easily and inexpensively decorated with designs conforming to any architectural plan. These may be permanently chipped, ground or mitred upon the surface before installation.

Decorated by any of these processes, Tapestry Glass is particularly suitable for exterior doors, windows, ceiling lights or other openings. For office partitions, connecting doors, bank screens and other interior uses, plain Tapestry Glass is widely used, its even, brilliant surface giving an interesting and decorative effect.

Tapestry Glass is now installed in many new and beautiful churches, schools, office and business buildings, residences and apartments throughout the country. Investigate its possibilities through the nearest glass dealer or write for catalog and samples to the Pittsburgh Plate Glass Company.

PITTSBURGH PLATE GLASS CO.
GLASS **VARNISH** **PAINT**

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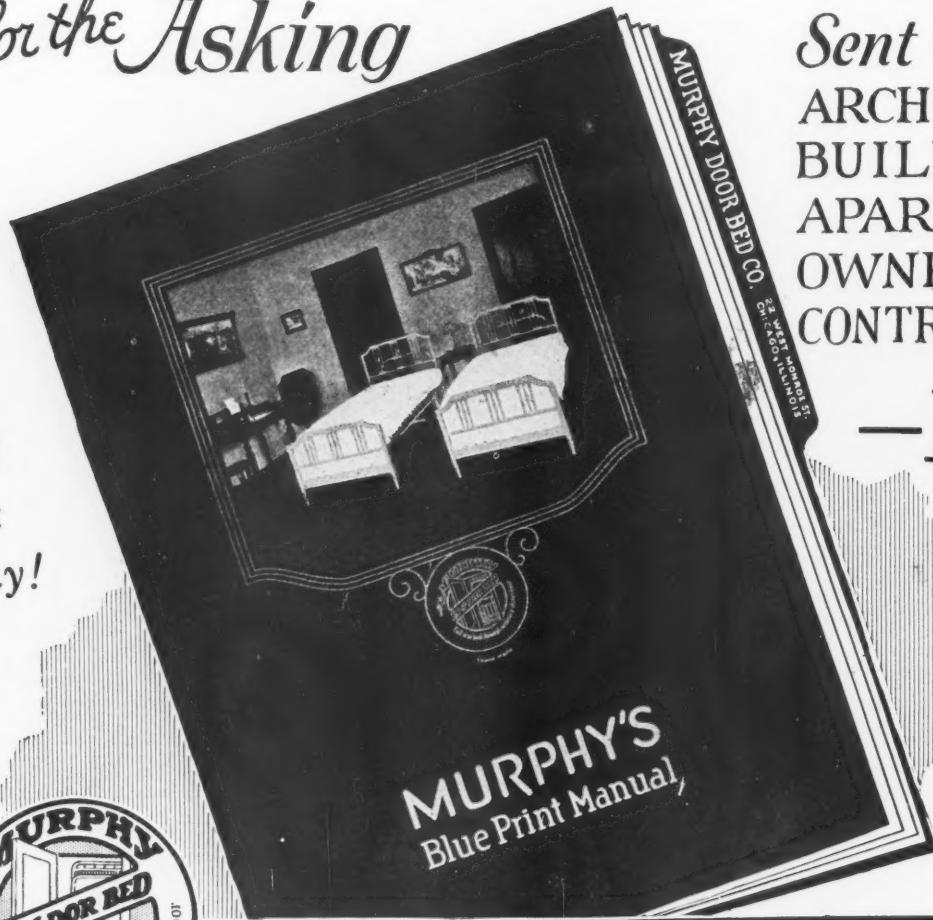
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**You'll Find the
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NEVER a question of doubt enters the minds of Architects, Builders, and Owners who have once used Murphy In-A-Dor Beds as to the value of their investment. They know from experience that it pays to always specify Murphy—(First)—because the Murphy In-A-Dor bed is by far the easiest of all concealed beds to install. (Second)—That the Murphy method of installation is the only one that allows a full size comfortable bed to be completely concealed behind an ordinary 3' wide door—(the door being free from all weight), thereby giving full access to bed closet whether bed is in use or not. And (Third)—Because there is a Murphy In-A-Dor type of concealed bed to fit every possible requirement. Let the experience of thousands of others be your guide and **SPECIFY MURPHY BEDS** every time.

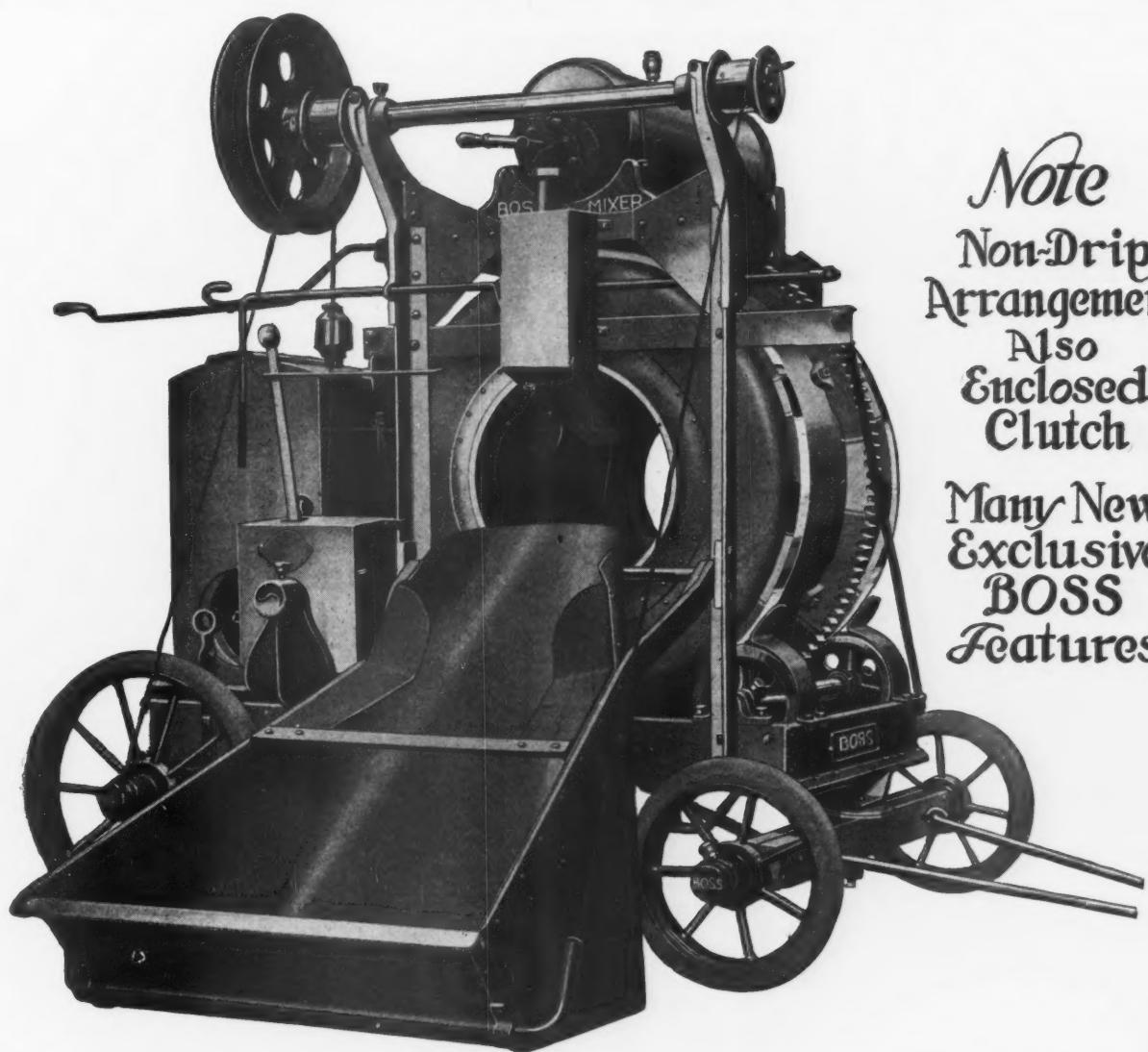
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—THE MURPHY

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Kansas City, 469 Fifth Ave., New York City, 1919 Pacific Ave., Dallas, Tex., 309 Third Ave. N., Nashville, 1807 S. Main St., Los Angeles, Neff-Stiles Bldg., El Paso, 319 Dryades St., New Orleans, 10 St. Antoine St., Montreal, Can., 205 O'Connor St., Ottawa, Can.



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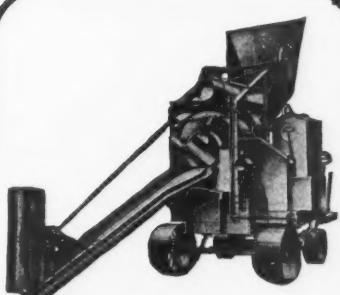
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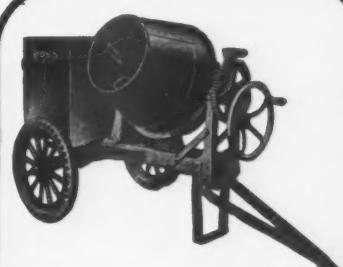
A Fast, Sturdy, One-Man
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3 1/2S, 5S, 7S SIZES
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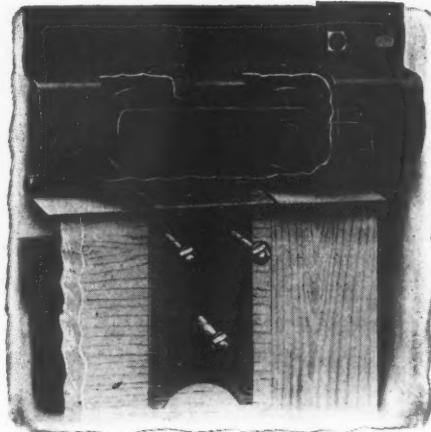
Allith-Prouty

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Announcing the A-P "Five-Fifteen" Hanger with "Five-Fifteen" Track



The new low-priced full watershed equipment for
single and parallel sliding doors

THE HANGER is of steel construction with roller-bearing machine-turned cast wheels. Has vertical adjustment and requires no lateral adjustment, for the hanger is applied to the wall side of the door.

The track is formed of one piece of steel into a design of remarkable strength and

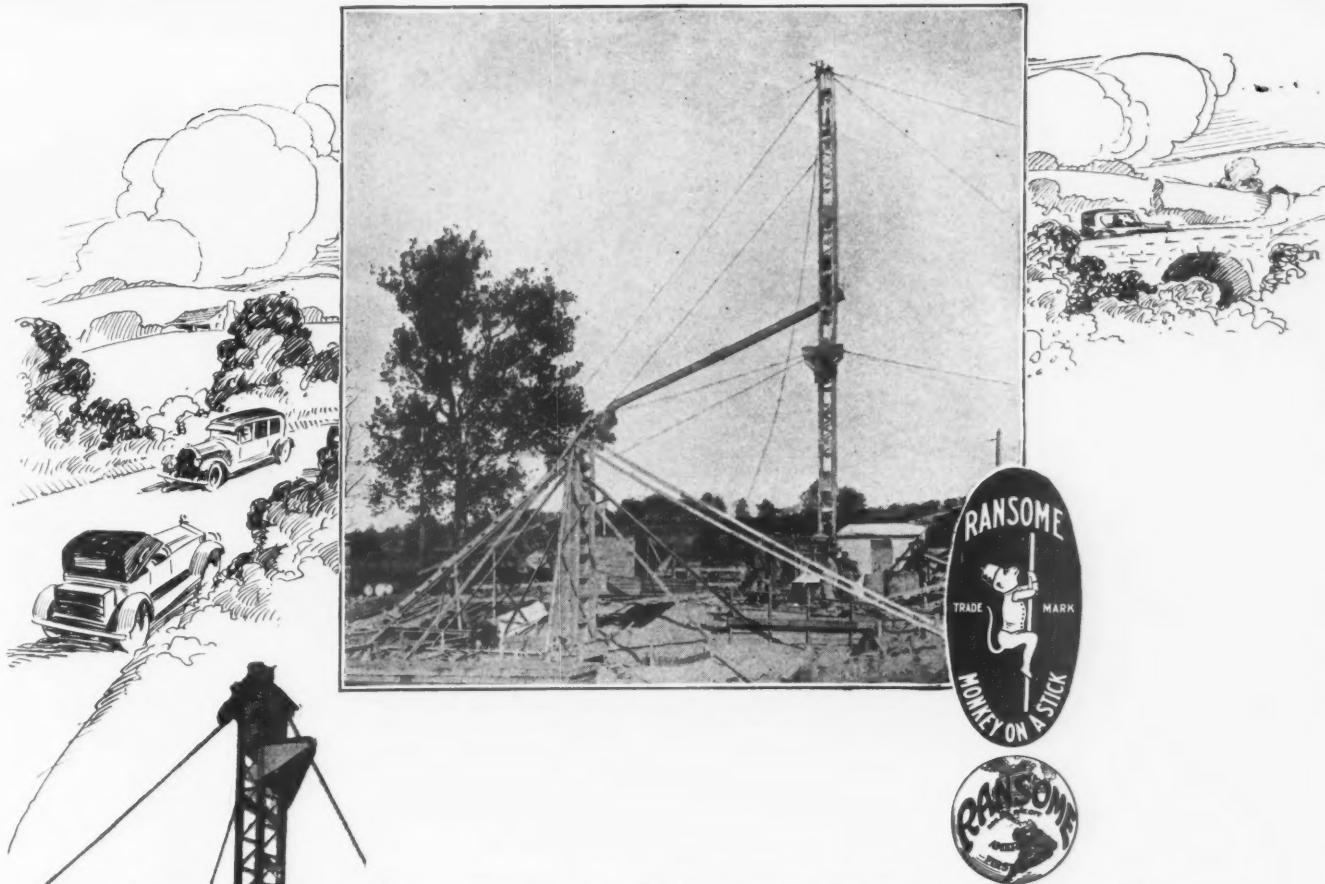
efficiency. Bird and weather proof. No rivets or welds. No parts to assemble. Quickly erected with lag screws and nails packed with the hangers.

There's nothing to compare with "Five-Fifteen" at anywhere near the price. Let us send you full details.

ALLITH-PROUTY COMPANY DANVILLE, ILLINOIS

Manufacturers of: Door Hangers, Garage Door Hardware, Fire Door Hardware, Overhead Carriers, Rolling Ladders, Spring Hinges
Representative Jobbers Distribute A-P Products Throughout the United States

THE RIGHT HANGER FOR EVERY DOOR



Out on the Long Island Motor Parkway

Wallace M. Hendrick placed a batch of concrete almost every minute of the day with a Ransome Monkey-on-a-Stick outfit at the Rocky Hill Road Viaduct extension on the Long Island Motor Parkway.

For jobs of that kind or where a comparatively

small amount of concrete is to be distributed over a relatively large area—as in "block type" residences, etc.—the Ransome Monkey-on-a-Stick is a world beater for economy.

If you have any work of this sort in prospect you should look up the Monkey-on-a-Stick. Send for Bulletin 115.

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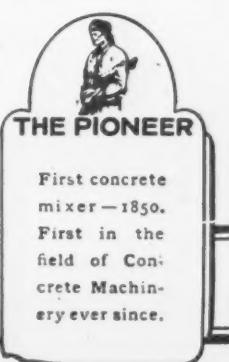
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Chicago

The Colossus of Modern Building

THE Furniture Mart in Chicago, proclaimed by statisticians as the world's largest building under one roof and constructed entirely at one time, adds another triumph to the skill and ability of architect, engineer and contractor.

Among other justly famous materials used in the construction of this Colossus of modern architecture was OHIO WHITE Finishing Lime. In fact 842 tons of this lime were used to make the interior walls of this building permanent and beautiful.

The purity and natural composition of OHIO WHITE unite to produce a hard, snow-white wall, acoustics-improving, metal preserving, fire-resisting and free from chipping, checking and blistering.

Write for booklet, "A Job That Took a Million Years". It contains full details and explains why Ohio White gives such unusual satisfaction wherever used in construction.



Ask the Plasterer
—He Knows!

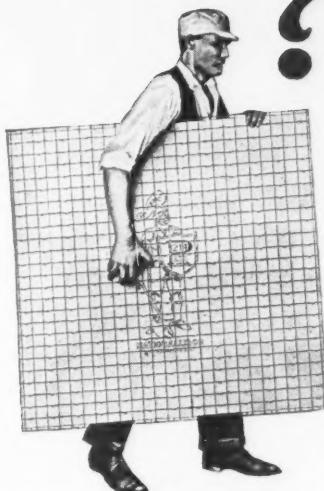
The Ohio Hydrate & Supply Co.

Woodville, Ohio

"The Lime Center of the World"



*Will the Owner
PAINT this
house or will
he "OVERCOAT"
it?*



Look for the "Sir Fabric" trademark on every sheet—it is your guarantee of quality and of service.



If he *paints* it, there's no work for architect, contractor, plasterer, lather, or for us. And the owner is simply piling up his cost of "up-keep."

If he "*overcoats*" it, there is work for all of us—and the owner is through with "upkeep"—permanently.

If you are interested in this new and tremendous market for your service, write for our Special Bulletin entitled "New Homes from Old Houses."

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OFFICES: Atlanta Cincinnati Chicago Cleveland Dallas Denver
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About 83 out of every 100 houses are *frame* (based upon U. S. Department of Commerce figures covering the East North Central States)—in other words, more than 17 million of America's 20 (odd) million homes need painting every two years. And painting, in forty years, amounts to probably more than the original cost of a frame house.

NATIONAL STEEL FABRIC CO

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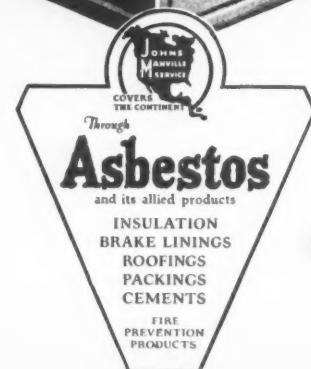


—that's what Johns-Manville Asbestos Shingles rang up on Mr. Carter's cash register

AND his business is increasing all the time. He is Mr. W. M. Carter, of Laurel, Miss. He started by buying Johns-Manville Asbestos Shingles for his own home. His friends and neighbors became so enthusiastic that he soon began to see possibilities for the sale of these Shingles. As our distributor his business mounted steadily upward. Now he is devoting his entire time to roofing. One month his contracts ran well over \$10,000. This is what he says: "I have often been complimented as a good salesman but I feel it is not so much the salesman as the product which is responsible for success. Prospects are splendid for a constant roofing business for an indefinite period ahead. Hereafter, I am going to sell only Johns-Manville Asbestos Roofing for all roof conditions."

Take the cue from Carter. Whether you are in a small city or a large one, your opportunity is just as great. Right in your own town someone will ring up roofing profits on his cash register. Write us about it and let us help you get this business.

JOHNS-MANVILLE Inc., 292 Madison Ave. at 41st St., New York City
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JOHNS-MANVILLE Asbestos Shingles



Kernerator equipped duplex, Milwaukee.
Thomas Van Alyea, Architect.

A Convenience the Better Home Deserves

JUST as good plumbing has replaced the pump, the pail and the open drain—just as modern heating has made the fireplace an item of sentiment and decoration—just as electricity lights the home of today and takes over most of the chores—

So, through the time-tried Kernerator, instant garbage and waste disposal is becoming, more and more, "standard practice."

Architects, builders and realtors everywhere, recognize in the Kernerator a sound principle, soundly applied. And their judgment is borne out by the thousands of Kernerator installations for years in constant satisfactory operation.

Costs Nothing to Operate—No Fuel Required

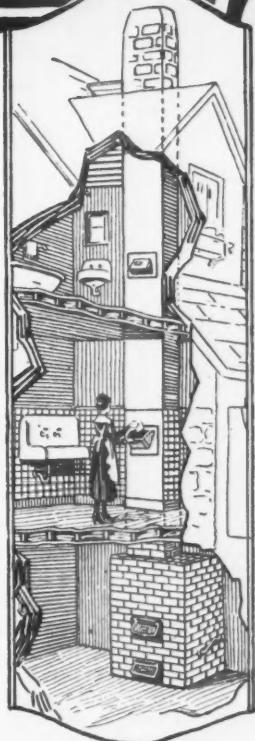
The Kernerator, as illustrated, consists of a brick combustion chamber at the base of the chimney, with handy hopper doors on the floors above. All waste—garbage, sweepings, tin cans, glass, shavings, papers and magazines, crockery, and rubbish of every type—is simply dropped through the hopper doors. An occasional lighting is all that is necessary. Everything combustible is quickly reduced to ashes, while non-combustibles are flame-sterilized and removed with the dry ashes.

KERNER INCINERATOR CO., 1053 Chestnut St., Milwaukee, Wis.

KERNERATOR

BURNING IN THE CHIMNEY

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Convenient detailed information appears in Sweet's (1924) pages 2536-37. We will be very glad to furnish any further data you may desire and to refer you to our nearest special representative.



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Made from Keystone Rust-resisting Copper Steel



The destructive enemy of sheet metal is *rust*. An alloy of Copper gives to Steel Sheets and Tin Plates the highest degree of resistance to rust and corrosion. This is a fact, proved by actual time and weather. Keystone Copper Steel gives superior service and satisfaction for roofing, siding, spouting, gutters, culverts, tanks, metal lath—and for all uses in the contracting and building construction field.

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Remember, when resistance to rust is a factor, it is important that you demand Keystone quality. Its greatest testimonial is its users:

Important railroads use Keystone for roofing and new car construction.

The U. S. Reclamation Service, the U. S. Forestry Service, and Bureau of Public Roads use Keystone for the construction of culverts, flumes and tanks.

Prominent septic tank and vault makers use Keystone for greater durability.

Successful architects, engineers, contractors, roofers and builders use Keystone for maximum wear and rust-resistance.

Leading burial vault and casket manufacturers use Keystone for increased permanence and protection underground, where both service and sentiment demand enduring quality.

Keystone Copper Steel demonstrated its excellence in the service tests of the American Society for Testing Materials. Could you ask for more thorough and impartial proof?

Users everywhere favor Keystone for all purposes requiring lasting service. Send for "Facts" booklet.

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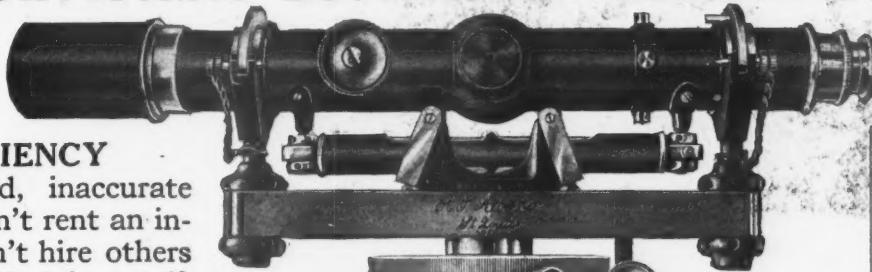
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\$5.00
Brings
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This instrument will add immeasurably to your efficiency and put you in the big builder class—will do more to increase your business, income and prestige than any investment you ever made. The Aloe Convertible Level is the world's best—a combination of both level and transit and quickly converted to either. Very accurate—satisfies the most exacting—yet so simple that anyone can use it.

**FREE
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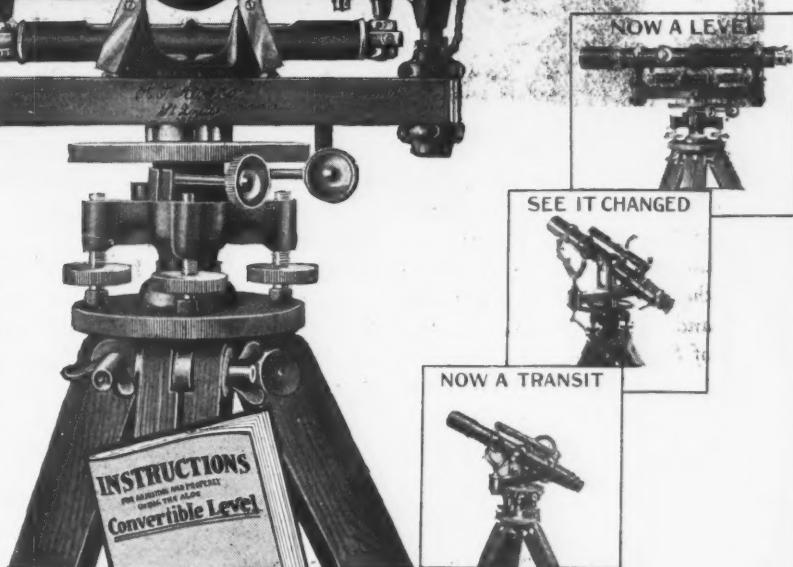
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HERE is another splendid example of what architects and contractors can do in rebuilding an old structure. Not only is the remodelled house more sightly, but in the future there will be no bills for painting and repairs. The pictures show the Rectory of St. Francis Church at Ottawa, Illinois, before and after the brick veneering job was done. H. B. Dox of Peoria was the architect and Sinnot Bros., of Ottawa, the contractors.



"A New House for the Old"

THIS is the title of a booklet which we have just issued on the veneering of old structures. It shows illustrations of a number of jobs as they appeared before and after a veneer of Face Brick was applied, and also gives complete directions as to how to veneer a building.

Contractors will not only be interested in this book but will find in it suggestions that will help them increase their business. In every community there are numerous old

frame and stucco buildings which can be made beautiful and up-to-date with an over-coating of Face Brick. And, at the same time, future outlay for painting and repairs will be eliminated. The field for this work is large and only awaits the initiative of the enterprising contractor.

Send today for your free copy of "A New House for the Old," and look into the possibilities for veneering jobs in your locality.

THE AMERICAN FACE BRICK ASSOCIATION

1763 Peoples Life Building • Chicago, Illinois



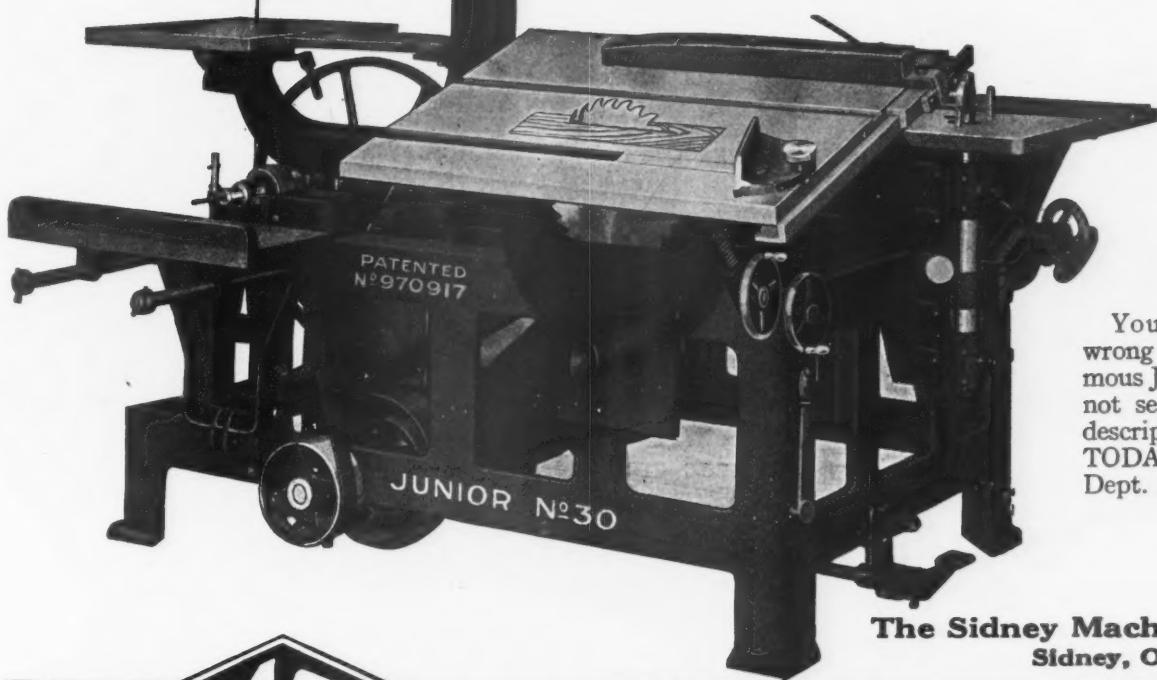
It's Dependable

Famous Junior "30" Woodworker



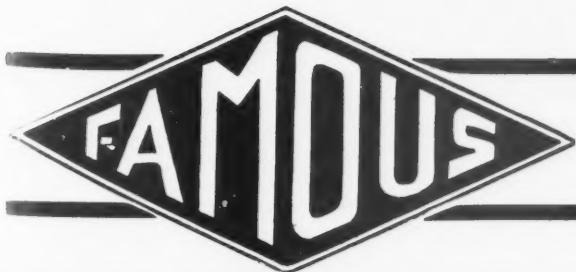
THE amount of work you can do on Jr. "30" woodworker and the economy of doing it will surprise you. Every woodworking operation from cutting rough lumber to finishing the finest trim can be performed upon the Jr. "30".

And then the remarkable low cost of this machine and its installation and maintenance are many times lower than that of the five machines it includes. Only one installation, only one motor to require power and only 48 square feet of floor space are necessary when you have the Famous Jr. "30". In fact no other woodworker made offers the advantages of this machine and no other woodworker has as many exclusive features and attachments.



You can't go wrong with a Famous Jr. "30". Why not send for fully descriptive booklet TODAY? Address Dept. 103.

The Sidney Machine Tool Co.
Sidney, Ohio



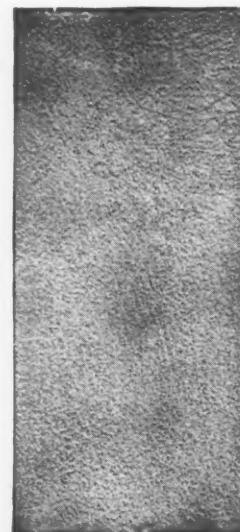
Woodworkers



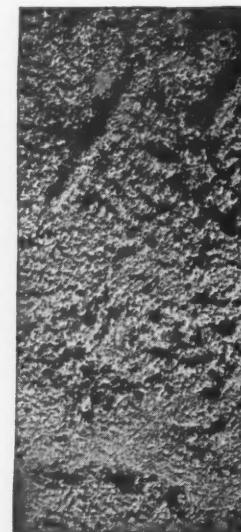
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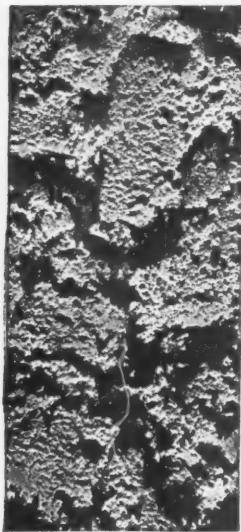
COLONIAL



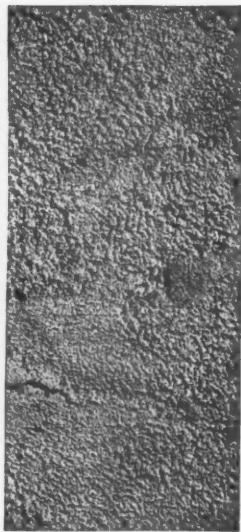
GOTHIC



ITALIAN COTTAGE



GREEK



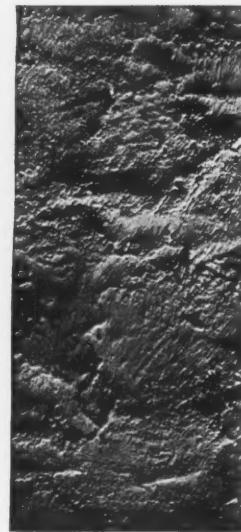
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CALIFORNIA

The Portland Cement Stucco textures here shown are taken from photographs of actual stucco jobs. Any competent workman in the plastering trade can reproduce these beautiful, permanent and economical finishes.

A Texture for Each Period

Controlled and directed by the creative genius of the architect, Portland Cement Stucco assures a range of beauty obtainable with no other material. It makes certain a texture and tint that complete harmoniously the style of the period in which the structure is designed. Have you received your copies of "Portland Cement Stucco Textures" and "Portland Cement Stucco"? If not, send for them today. Address the nearest office listed below.

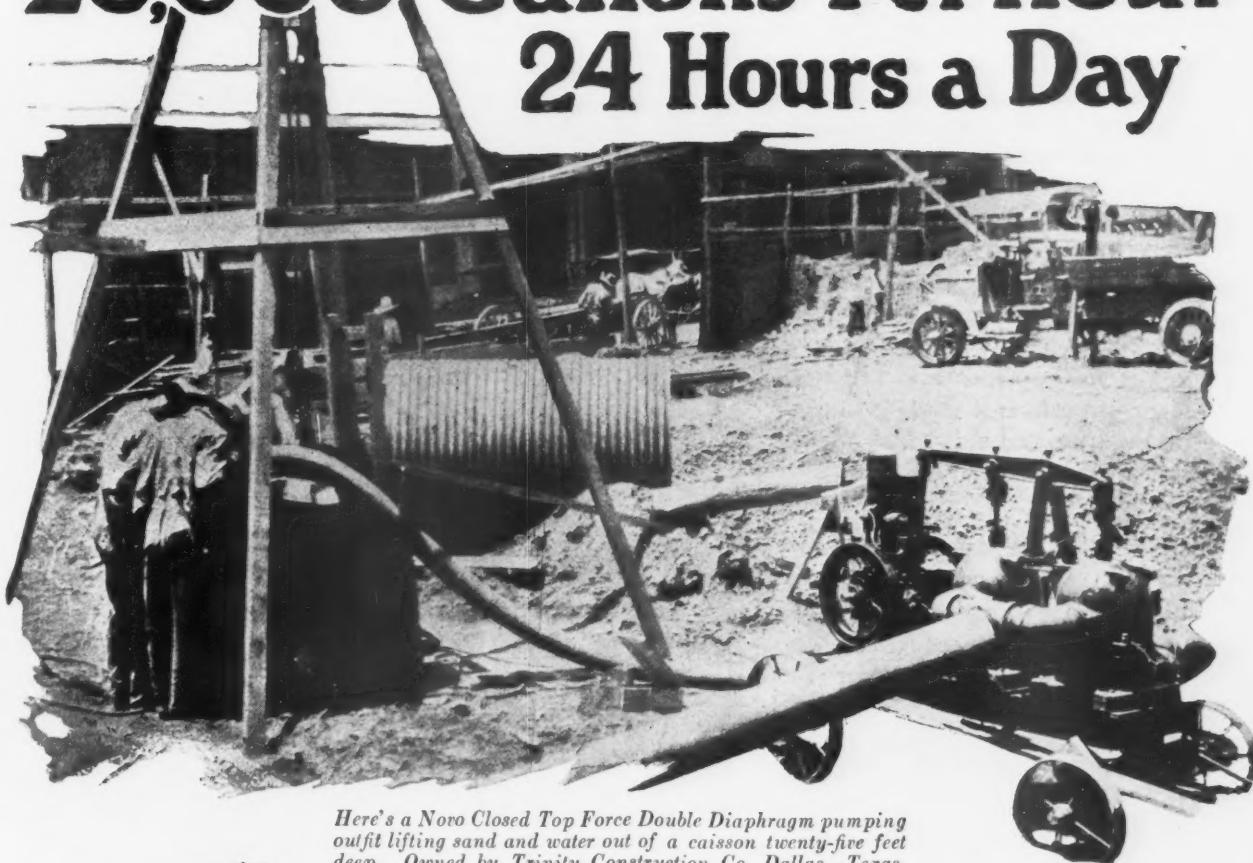
PORLTAND CEMENT ASSOCIATION *A National Organization to Improve and Extend the Uses of Concrete*

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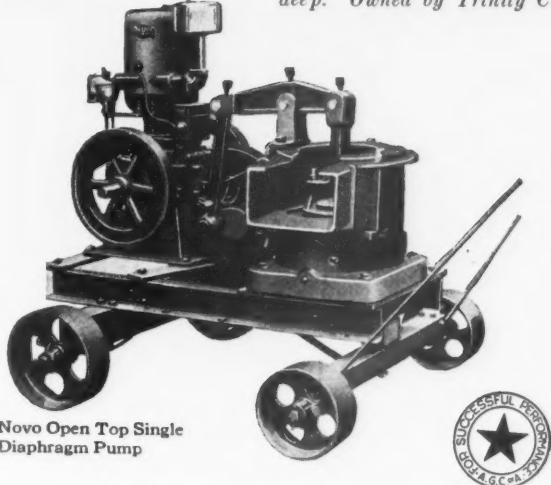
DALLAS INDIANAPOLIS MEMPHIS NEW YORK PITTSBURGH
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Here's a Novo Closed Top Force Double Diaphragm pumping outfit lifting sand and water out of a caisson twenty-five feet deep. Owned by Trinity Construction Co. Dallas, Texas.

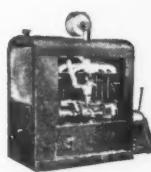


Novo Open Top Single
Diaphragm Pump

NOVO Double Diaphragm Pumping Units (open and closed) will furnish up to 20,000 gallons per hour, twenty-four hours a day. Capacity is a big thing in a diaphragm pump, but the ability to stick to a job day in and day out is a bigger one. To handle water in your excavation, a pump must work with complete disregard for time. The reliable Novo Engines with which Novo Pumps are equipped are made for just such service. Twenty-four hours a day is a part of their job. Novo Closed Top Force Diaphragm Pumps (both single and double diaphragm) are made for heads up to 50 feet.

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Cable Address, "NOVO LANSING"
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Single Cylinder, 1½-10 H.P. (frost proof)—two cylinder, 6-12 H.P.—four cylinder, 12-40 H.P.

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Single and double drum—one and two speed and reversible, portable heavy duty types—powered with Novo Engines



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Open and closed top diaphragm—centrifugal—deep well—single, duplex double acting and triplex pressure pumps.

COMPRESSORS

Three sizes—up to 170 cubic feet—with steel housing—mounted on trucks. Combination hoists and compressors.

Economy Now —But Later?

1

So often the temptation to "use a little cheaper lumber" is alluring.

Many times a man will consent to cheapen his construction—but never would he be willing to cheapen its first appearance!

Yet *first* appearance will not last—investment value will not be maintained—if that most important factor, *construction*, is slighted.

2

Whether a family buys a new home, or builds one, the importance of construction dependability should not be overlooked.

Short cuts of economy to home ownership, by means of buying poor lumber, are never satisfactory in the end.

Reputable builders today are insisting more and more on dependable construction—because that is the one way to satisfactory home ownership.

3

The dependability of Long-Bell trade-marked products fits them for use in good construction. They give continued satisfaction during the life of a home—in the end they are less costly—and, most important, they aid in giving a man that pride which comes in ownership of a home *built for the years!*



Users of lumber for home-building should seek the sort of economy that will seem wisest after a few years have passed—economy *plus investment value*. It is this sort of long-time dependability that Long-Bell trade-marked lumber gives to construction.

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Lumbermen Since 1875

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Residence of Dr. John M. Dean, St. Louis, Mo., in which a McCray refrigerator will protect the family's health by keeping food fresh, pure and wholesome.

When Building to Sell or For Your Own Home

Wise builders install McCray refrigerators in their own homes and in houses built to sell. In their own homes the McCray protects health, saves food and money. And the *known value* of the McCray is an added asset when you come to sell.

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Built-to-order equipment by McCray embodies the skill and craftsmanship developed in our third-of-a-century experience; highest grade materials, each proved best for its particular purpose; and scientific design insuring active air circulation.

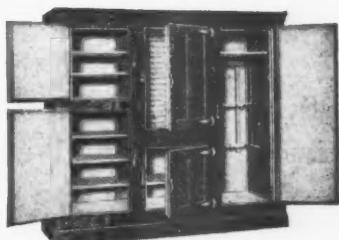
We build refrigerators for every purpose—for homes, hotels, restaurants, clubs, hospitals, institutions, stores, markets, florist shops. Send for the latest McCray catalogs for your files.

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McCray Refrigerator Co.
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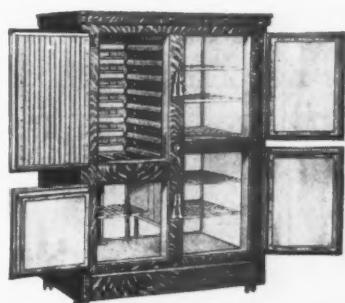
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For Residences.

Look for the McCray Name Plate

You'll find it on the refrigerator equipment in the better stores, markets, hotels, hospitals, restaurants, florist shops and in homes. This name plate gives positive assurance of foods kept pure, fresh and wholesome.

Building Good Will with Holland Furnaces

IF HOME buyers find the heating system entirely inadequate for their new home they naturally fix the responsibility on the man who sold it to them.

They know the seller has installed a cheap furnace, totally unfit for the requirements to make a really comfortable and happy home.

Naturally these people will "knock" the seller.

No matter how carefully other elements of the house have been looked after, it is impossible for a family to keep happy, healthy and contented in a "Cheap Furnace House."

If home buyers find the healthful warmth that a Holland Heating System always provides, no builder can have a better advertisement. They tell everyone how comfortable they are —how well they like the home. The word will be passed along how well and carefully "So-and-So" builds.

Holland Furnaces will help you enjoy such a reputation.

Just write or phone the Holland Branch in your city. The Holland Furnace Company will assume complete responsibility; all details are taken off your hands, and you are fully protected by the Holland Service Bond—Five-Year Home Comfort Insurance.

THE HOLLAND FURNACE CO.

General Offices: Holland, Michigan

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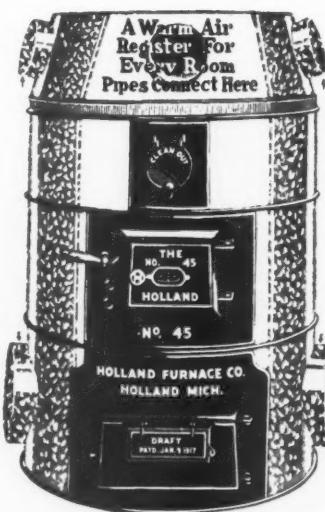
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*The Sign of Dependable
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*The Holland is NOT a pipeless
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The World's Largest Installers of Furnaces

Holland Furnaces Make Warm Friends



SANITAS MODERN WALL COVERING

Cut down the repair bills

Homes with Sanitas covered walls are worth more. They make a better impression on prospective purchasers, who know that Sanitased walls are stronger and stay in better condition longer, with less upkeep expense, than where any other wall covering is used.

Most home buyers think long on the subject of depreciation. Let them know that repairs for cracked walls and the replacement of torn, peeled, blistered and faded wall decorations are eliminated by Sanitas, and you have lessened their fear of the upkeep burden.

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Styles for every room in the house

Plain and Pastel Flat Finish

tints that can be hung as they come, or stenciled, frescoed, or Tiffany blended.

Decorative Flat Finish

conventional and foliage patterns, stripes, mottles, and tapestry, grass-cloth, leather and fabric effects.

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in embossed effects for paneled treatments and trimmings.

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plain colors, tile effects and decorative patterns, for kitchens, bathrooms, etc.



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Reg. U. S. Pat. Off.



Builders get from \$100 to \$200 more for dwellings roofed with Mule-Hide Rainbow shingles

The soft, beautiful tapestry color effect, which for many years has been sought by Architects and Builders in Asphalt Shingle Roofs is now produced in the MULE-HIDE Rainbow Shingle.

The MULE-HIDE Rainbow Shingle is a blending of soft, contrasting, pleasing colors—marked by the absence of sharp or flashy contrast—producing a wealth of delightful color tones that intensify in beauty as they season and grow older.

Made in 3-unit, 4-unit and Extra Heavy Individual type Shingles.

Maximum profits and salability are assured when you roof with Mule-Hide Rainbow Shingles.

Builders get from \$100 to \$200 more for Rainbow roofed houses, resulting in net increased profit on each roof of \$90 to \$180, according to the size of the roof.

The Mule-Hide Rainbow Roof is a selling attraction. It puts a new note of cheerfulness and an atmosphere of character into the exterior of the house and is, therefore, a strong talking feature in making the sale.

This new beautiful shingle will pay you big dividends in satisfied customers, net increased profits and quicker turnover.

Write or wire at our expense for full size samples and literature and full color illustrations of the complete roof.

THE LEHON COMPANY
Manufacturers,
44th St. and Oakley Ave., Chicago





Famous Garland Dependability Plus New Mechanical Features

The Garland Warm Air Furnace, famous because it excelled in all the fundamental qualities, has been greatly improved by the use of a new Triplex Double Action Grate and a new Ash Pit.

As you read about or examine these new features, please remember that they are simply additions to a furnace already noted for its economy and efficiency.

The Michigan Stove Company
Detroit, Michigan



Three shaker bars insure much more thorough removal of ashes. Every part of the bed of coals is affected uniformly by the action of the shaker.

Ashes can not accumulate around the edges where they interfere with combustion, and necessitate the dumping of large quantities of half burned fuel.

Thus the Garland Triplex Grate insures the most efficient consumption of coal.

GARLAND

HEALTHFUL HOME HEATING

HESS *Welded Steel* FURNACE

**Every Home Builder Should Have This
Valuable Book on Home Heating -- Tells**

Why square shape is superior to round.

How fire-brick lining assures complete fuel combustion; prevents burnt out furnaces.

How fire door arrangement simplifies tending fire.

How front draft gives quick results.

How separate grate bars keep clean fire.

Advantage of extra size ash pit door.

Why furnace with welded steel radiator never leaks and delivers all the heat, and is the only kind you should consider.

SENT FREE

Modern Furnace Heating, containing all the facts on home heating systems, for the home owner, builder and contractor, will be sent FREE on request. Send for your copy.

**ASK ABOUT OUR
FREE HEATING
PLAN SERVICE;
TIME PAYMENT
PLAN, ETC.**



How constant hot water supply is maintained.

Why rectangular fire box is necessary for highest heating efficiency.

How separate grate bars burn any fuel.

How special type ash pit lengthens life of furnace.

Why high cap is used.

How water evaporation makes healthful heat.

How automatic draft operates, preventing escape of smoke.

How special fire door saves fuel.

How air supply collar maintains warm air circulation.

Besides all these facts

MODERN FURNACE HEATING

contains an authoritative and exhaustive explanation and comparison of the heating principles involved in the use of steam, hot water, and hot air heating systems as well as stoves, and the results and relative merits of each.

You need this valuable home heating book.

When low cap is best.

Why emergency direct draft is essential.

How smoke outlet prevents clogging; saves fuel.

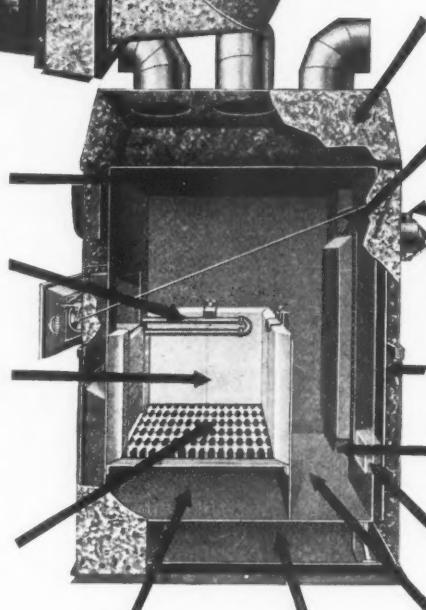
Why check draft placement gives perfect control.

How inner casing quickens results: prevents heat waste.

How indirect smoke outlet saves all the heat; saves waste up chimney.

How clogging flues are eliminated.

Why settling chamber is indispensable for heating efficiency.

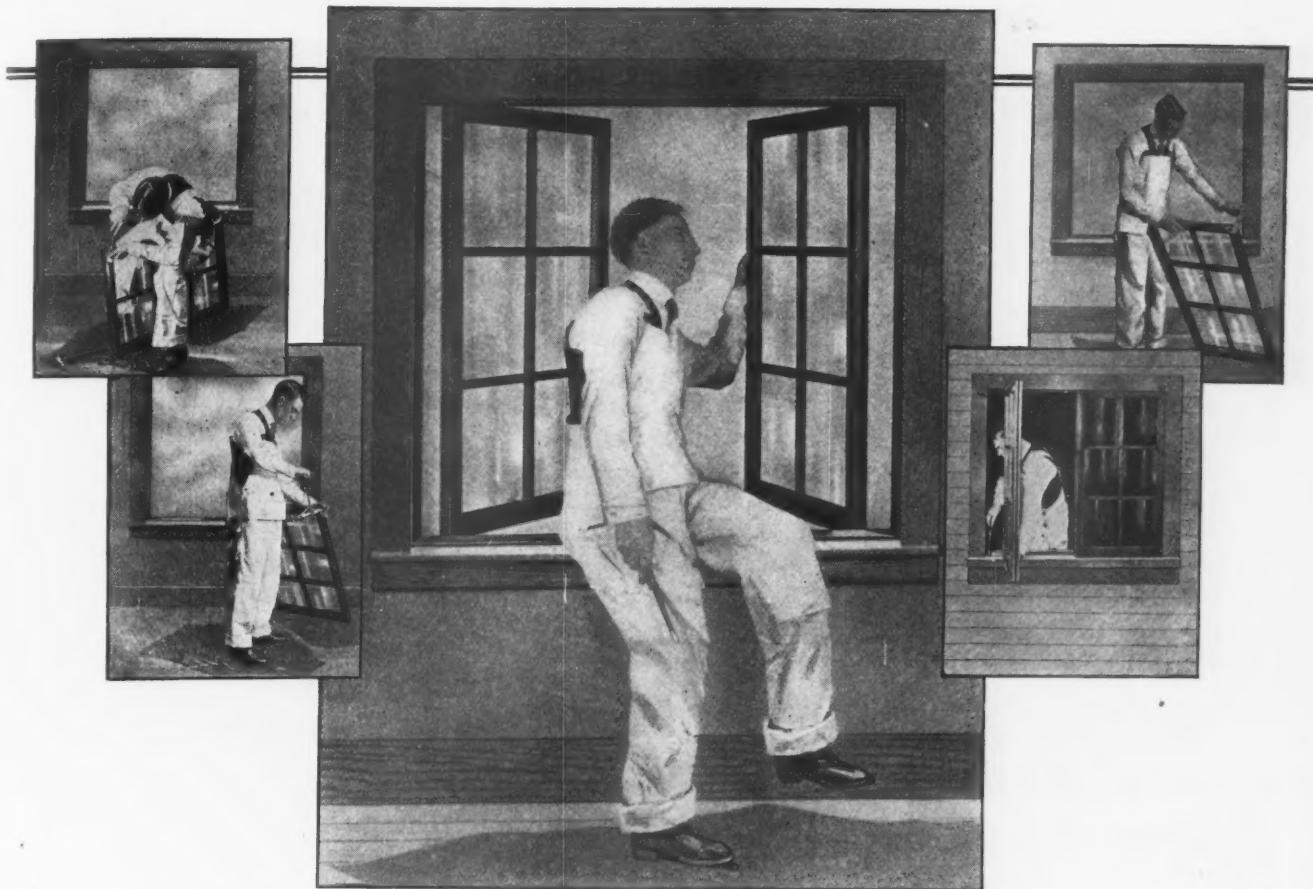


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WHITCO "The Easy Hardware"

The first time a carpenter installs a casement or transom with
WHITCO

he may not be able to show much of a saving in time and labor as compared with the use of butts and adjusters—

But once he gets the few simple directions fixed in his mind—

As soon as he sees that this hardware not only swings the window as effectively as a pair of butts, but controls it better than any adjuster he ever put on—

After he gets over wondering why someone did not think of some such device before—

He will show a real saving on every installation thereafter, whether it is a single sash, a pair or sash or multiple sash in wide openings without mullions—or transoms.

As the smaller illustrations show, the job is a simple one.

After fitting the sash, he cuts a housing in the top and bottom of the sash; attaches the hardware; turns the sill plate at right angles to the sash; sets it in the opening and secures it to the head and sill.

Just about the same amount of work involved in the installation of one butt—

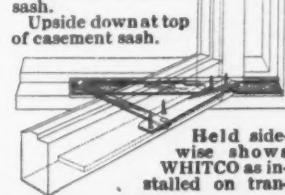
A clear saving of the time and trouble required for installing the other hinge and the adjuster.

You can buy WHITCO from your Hardware Dealer

Full particulars on request

In Solid Brass (per set)	the equipment for one casement sash or transom	\$2.25
Rust-proofed Steel	" " " "	". \$1.75

In this position shows WHITCO at bottom of casement sash.
Upside down at top of casement sash.



VINCENT WHITNEY COMPANY

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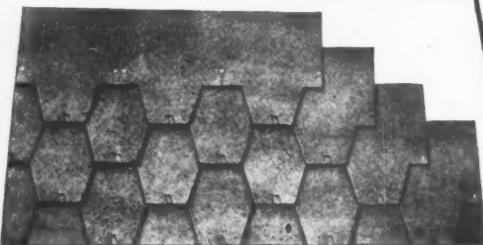
Eastern offices:
636-642 Mass. Trust Bldg.
Boston

Send all inquiries to nearer Office.

Copyright 1925, H. E. Helbrook Co.

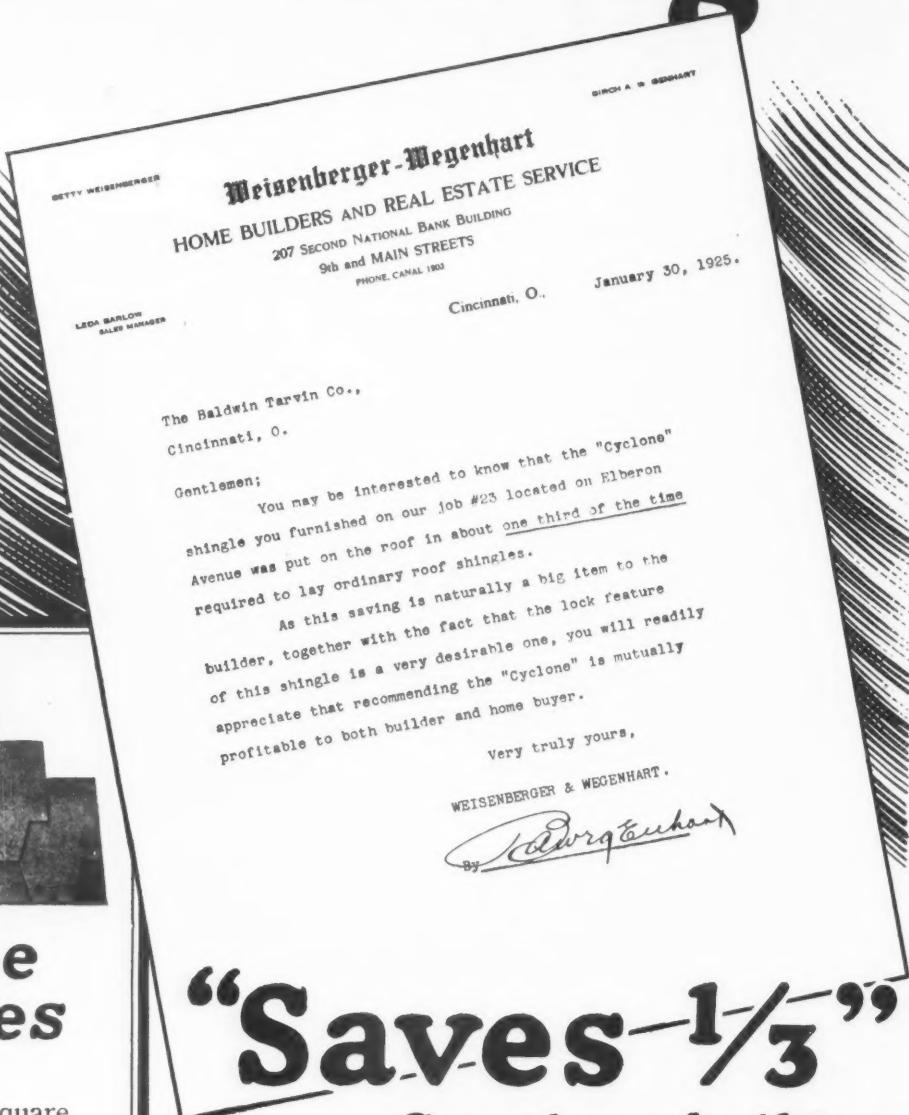
WHITCO makes it easy and safe to clean the outside of a casement window from within the room.

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Note these Advantages

- 1** Only 72 shingles to the square. This means a marked reduction in cost of application.
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- 5** 2, 3 and 4 thick, assuring years of satisfactory wear.
- 6** In quality the peer of the best asphalt strip shingles. Yet they cost no more.



"Saves $\frac{1}{3}$ "
—Say these builders

Cyclone is sweeping the country. From far and near come enthusiastic letters like the one above. Why miss out on a good thing? Get the facts! Mail the coupon—RIGHT NOW—for full information regarding this remarkable labor and material saver. No obligation, of course.

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Please send me details of the **Cyclone** Shingle
and full particulars, **FREE** and absolutely without obligation.

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CARPENTERS, CONTRACTORS and BUILDERS

Write for particulars about our "Easy Time Payment Plan," for equipping a Modern Screen Factory.
BIG PROFITS IN SCREENS—START AT ONCE.

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LOU MARKWELL CO.

See our "Ad" on page 220.

75 STEUART STREET, SAN FRANCISCO, CALIF.
174 FRANKLIN STREET, NEW YORK, N. Y.



PRICE \$50.00
F.O.B. MILWAUKEE

A very convenient and quick operating device for stretching screen wire. It stretches the wire and holds it while tacking, until it is released. It is operated entirely by foot, and works faster and far better than home made devices. Makes your screens 100% perfect. Will take any width wire up to 48 inches but can be built larger if desired. Portable and Stationary Models.

Automatic Screen Tacker

8 Times Faster Than the Hammer and Tack

A slight pressure of the hand drives a broad flat double pointed staple into hard or soft wood. Staple Straddles Five Strands of Wire. No banging of fingers and no waste. Holds twice as strong as tacks. Screen manufacturers now using the ACME use three staples in place of five tacks.

A World Beater for Tacking Tags on Shipments

MODEL "C"—as illustrated above—(For Flat Surface Lumber)	\$7.00
MODEL "E"—(For Flat and Rabbed Lumber)	8.00
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Staples, 60,000 lots, per M.43
Staples, 125,000 lots, per M.38
Staples, 250,000 lots, per M.35

Prices on Larger Quantities on Request
Pure Copper Staples, 10 Cents Per Thousand Higher
PRICES ARE F. O. B., NEW YORK
PRICES F. O. B. SAN FRANCISCO ARE SLIGHTLY HIGHER

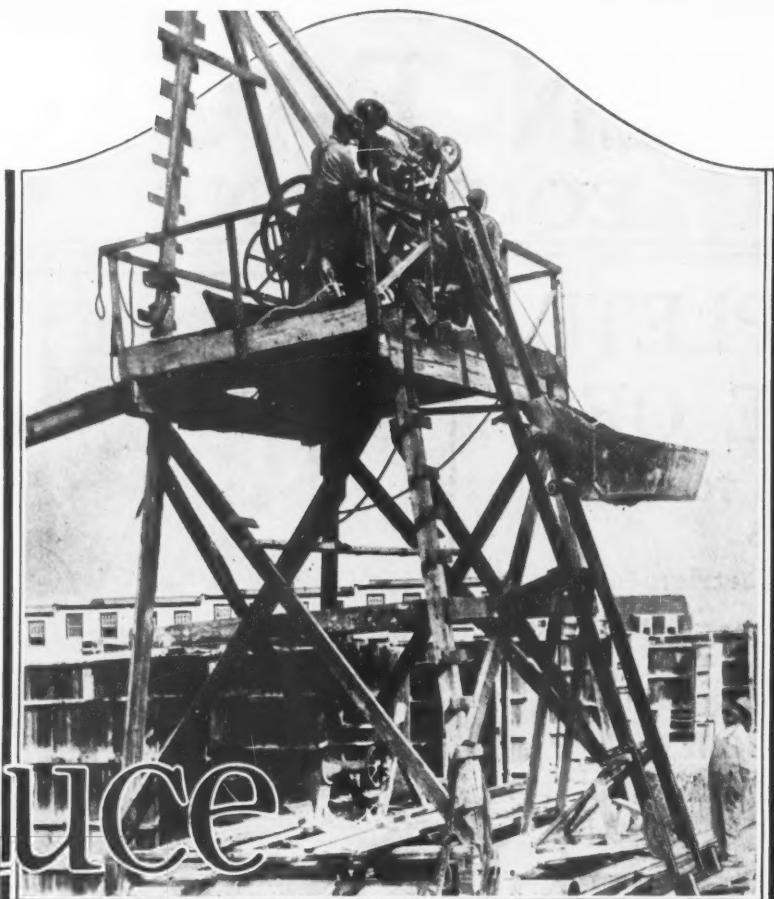
Moulding Mitre Cutter

This Handy Tool is Filling a Long Felt Want With Window Screen Makers

It cuts smooth both ends of a strip in less time than it can be dropped in a mitre box, and does it right every time. It is operated entirely by foot and is so simple that anybody can operate it.

Price \$35 F. O. B. Milwaukee





Reduce Distribution Costs by pouring concrete from an elevated **WONDER**

A WONDER Mixer located five, ten or fifteen feet above your materials and discharging directly into the forms reduces the cost of mixed concrete distribution and largely eliminates wheelbarrow hauling.

The standard track loader used on a WONDER Mixer makes this possible to any reasonable elevation by simply extending the track rails. This extension may be added at any time.

This is a very desirable feature and thousands of contractors are using WONDER Mixers with extended loaders to reduce their distribution costs.

The WONDER catalog fully describes the WONDER track loader and its many advantages. It also contains illustrations of the various uses to which this extension feature is being applied.

Send for your copy today!

CONSTRUCTION
103 VINTON ST.

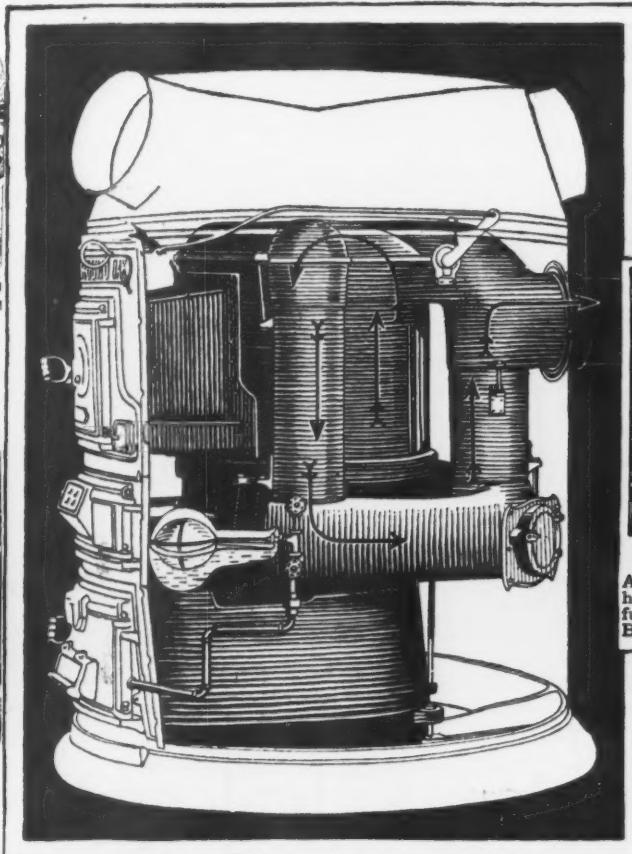
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1910-1925
*The Original
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The Round Oak Automatic Humidifier
Automatically moistens the air of the home. Supplied on all *Round Oak* furnaces — "Moist-Air" and "Iron-Built."



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MOIST AIR HEATING SYSTEMS

**Heat the Home—
Humidify the Heat
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Heat and Humidify**

Install these nationally famous Heating Systems in the homes you build and you will satisfy the most particular buyer and have no comebacks.

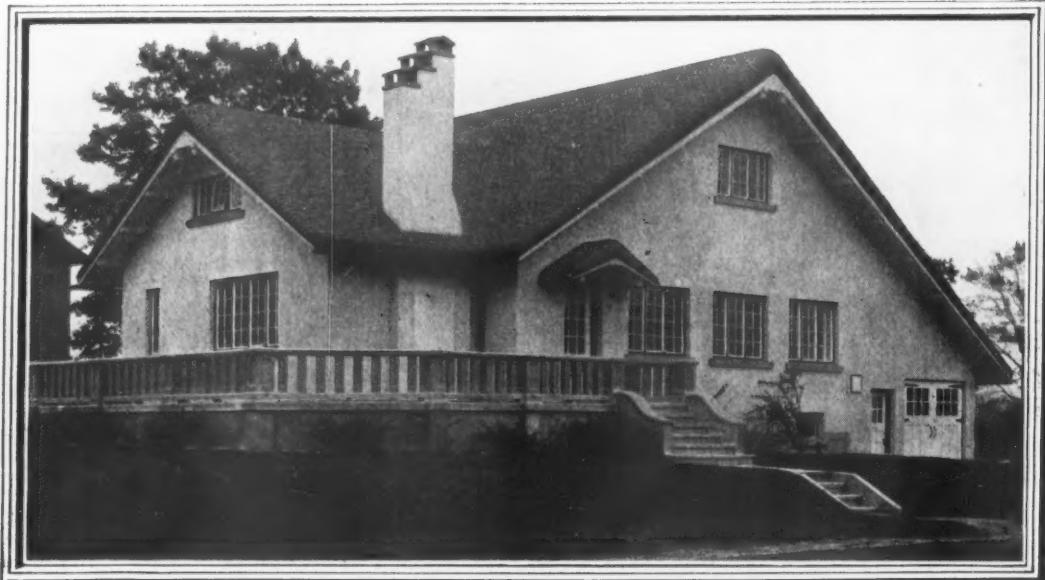
They are individually planned for the homes they are designed to heat—and built to produce this heat healthfully and economically.

It pays to fight for good heating equipment in the homes you build. Let us send you the latest catalogs on **ROUND OAK MOIST AIR HEATING SYSTEMS**

**THE BECKWITH COMPANY
DOWAGIAC, MICH.**

"Round Oak Folks"

Established 1871



One man planned, built and owns this home thatched with Winthrops

When Mr. H.J. Maughn, Inglewood Drive, Toronto, decided to build a home he could judge materials from the points of view of architect, contractor and owner. He planned, built and owns the home shown above.

When he selected Winthrop Tapered Asphalt Shingles for this thatched roof, he

knew—as architect—that they would give him—as owner—the striking effect he wished. He knew, too—as contractor—that he would experience no difficulties in laying the roof.

As owner he was sure of the beauty, durability and general satisfaction his roof would give him.



The strongest quality feature ever put into any slate-surfaced asphalt shingle is the exclusive, distinctive taper found only in the Winthrop.

This taper not only causes them to snuggle closer to the roof but offers the greatest thickness where exposed to weather and possible firebrands.

These thick butts, due to extra coats of asphalt on both sides of the heavy felt core, cast the attractive shadow lines that made the old wooden shingles popu-

lar. Deeply imbedded crushed slate gives the outside surface beautiful and lasting colors—tile-red, sea-green, blue-black and golden-buff.

When laid over old shingle roofs, Winthrops have no equal for re-roofing.

We want you to have a free sample of this beautiful shingle, to feel and see its goodness and beauty for yourself.

Just tell us what color you'd like to have.

Beckman-Dawson Roofing Company

832 F. C. Austin Bldg., 111 W. Jackson Blvd., Chicago, Ill.

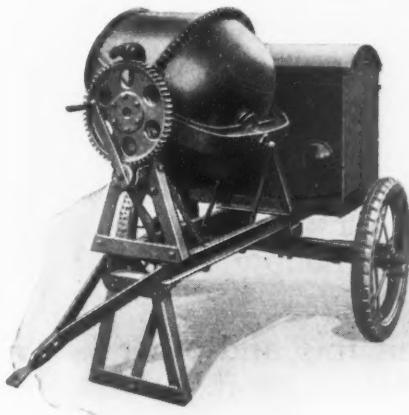
Also manufactured by

Lockport Paper Co., Lockport, New York

No. 4L Kwik-Mix Mixer equipped with side loader and water tank. Suited for general all around work. Has a capacity of 4 cubic feet of mixed materials.



No. 3T Kwik-Mix Trailer can be furnished with either pneumatic or cushion tires and can easily be moved from job to job.



There is a complete line of Kwik-Mix tilting mixers ranging from the small No. 2 to the No. 5L.



The Mighty One-Bag Tilting Mixer

Get the most from a One-Bag Tilter by getting the Kwik-Mix 5L Mixer. This husky, over-sized, powerful mixer is able to economically pour "heavy concrete jobs" where one-bag mixers are required. It is a real buy.

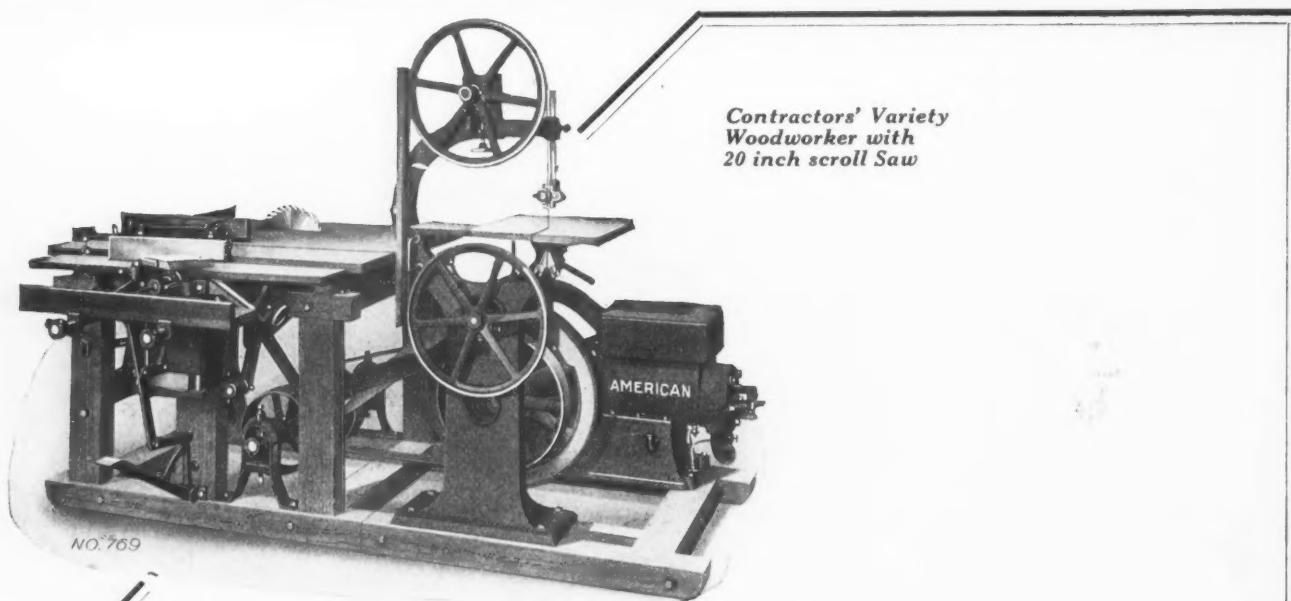
Contractors are now using the Kwik-Mix 5L for heavy duty mixing such as pouring concrete for bridges, heavy foundations and flooring. Because it is compactly built, it can be put high up on scaffolding for heavy duty or in the basement for "clean-up" work.

The Kwik-Mix 5L has an oversized mixing drum revolving on Hyatt Roller Bearings, four steel mixing blades, durable frame construction and dependable and surplus power.

Get our latest circular covering specifically the advantage of this mixer.

The KWIK-MIX Co. Concrete Mixer

PORT WASHINGTON, WISCONSIN



Cuts any kind of lumber— and, say!—how it cuts costs!

THIS American Portable Variety Woodworker is letting hundreds of contractors figure low on jobs. And clear up bigger profits, too! No slow hand sawing for them. No waiting on the nearest shop for special jobs. Instead, they have a complete woodworking plant right at hand. Four men can work at it at once.

This one machine may be used as a rip, cutoff, or 20-inch scroll saw, as a dado, gaining, grooving, rabbeting, tenoning, or boring machine, as a jointer or planer, a matcher, molder, or sander, and as a hollow chisel mortiser.

Our Bulletin No. 80 describes in detail this and other time-saving "American" machines. Write for it.

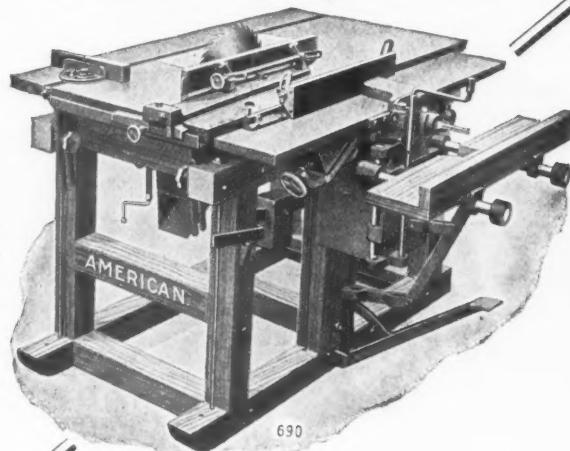
American Saw Mill Machinery Co.

60 Main Street, Hackettstown, N. J.

1360 Hudson Terminal Bldg.
New York City

"American" Contractors'
Variety Woodworker

Manufacturers of wood-
working machinery for use
on the job or in the shop



690

Make More Money~Be a Bigger Builder

The Good Things—the Big Things—of Life are for those who will reach out for them. You can have them for the grasping—just an energetic thought—saying "I Will" and they are yours. Are you content to make a small profit slowly on hand labor or—will you make a large profit quickly by means of a modern machine? Which?



WHICH?

YOUR BIG OPPORTUNITY for BIGGER SUCCESS

With this wonderful machine and two men you can do as much work as you formerly did with six men. And you can do it easier, quicker and better, producing an absolutely uniform batch every time. It will mix $4\frac{1}{2}$ to $5\frac{1}{4}$ cubic feet per batch—can be speeded up to a batch every minute—over 2,000 cubic feet per day. It is the most practical and efficient mixer made—scientifically constructed of the best materials—light in weight, portable, simple and durable. Backed by the Aloe iron-clad guarantee to give the utmost service and satisfaction.

The Engine

Fitted with $2\frac{1}{2}$ horse-power four cycle, horizontal gasoline engine with high-grade Webster magneto. Simple, powerful, reliable, economical—requires only two gallons gasoline a day. Protected by all-steel housing. Two doors at rear make it easy to get at.

Comes Complete

Nothing complicated—nothing to get out of order. Can be operated by anyone who will read and follow the simple directions which are furnished with each mixer. It comes complete—ready for work the day you get it.

FREE



Free Trial—Easy Terms

So confident are we the Magic Mixer will please you in every way we will gladly send it to you for 10 DAYS FREE TRIAL on payment of only \$25.00. Take it out on your jobs—put it to the most severe tests. Then, if you can be induced to part with it again ship it back at our expense—and we will promptly return your money without a word.

INVESTIGATE NOW!

The road to success is open to you. The opportunity to make yourself a big man is before you. The simple act of signing and mailing this coupon may be the turning point of your career. Don't sit idly by while other men are forging to the front. Start the coupon on its way. Get the facts. The time to act is NOW.

Get This FREE Book

You ought to have this booklet of invaluable facts about the wonderful opportunities the Magic Mixer offers you. Sent FREE together with full particulars of our Easy Rental Purchase Plan by which the Magic Mixer will pay for itself and put you on the road to greater success at the same time. Get this remarkable offer.

MAIL COUPON TODAY

A. S. ALOE CO.

621 Olive St., St. Louis, Mo.

Send me FREE booklet, "The Concrete Road to Success", full description of the Magic Concrete Mixer and particulars of your Easy Rental Purchase Plan.

Name.....

Address.....

A. S. ALOE CO.
621 Olive St., St. Louis, Mo.

Builders have found a new use for Ambler Linabestos Wallboard

They've been cutting it into strips and applying it as clapboards. We are now meeting this demand by putting out these clapboard strips already bored for nailing, 6 in. by 8 ft. in the Dutch siding and 8 in. by 8 ft. in the Colonial.

This means that Ambler Linabestos Wallboard—a permanent building material that does not require paint and gives absolute fire protection—can be used at a great saving in labor as the exterior finish for some of the most popular designs of homes. The color is a light buff, just what many people prefer, anyhow.

Ambler Linabestos Wallboard has a wide variety of uses in interior construction. Years of use will find partitions of this material without unsightly cracks, because there is nothing about it to warp, twist or shrink. It comes in sheets 48" by 48" and 48" by 96,"³/₁₆ in. or 1/4 in. thick, can be applied by carpenters and can be readily sawed and nailed with ordinary tools.

Furnished in press-scored sheets which can be enameled in a tile-like finish, this material is used for the wainscoating of bathrooms, kitchens and laundries. It is unaffected by steam, heat or cold.

Send for samples of this material and let us help you to solve your building problems.

Asbestos Shingle, Slate, and Sheathing Company

Department A

Ambler, Penna.

Branch Offices:—Baltimore, Boston, Buffalo, Chicago, Cincinnati, Columbus, Detroit, Cleveland, Minneapolis, New York, Omaha, Philadelphia, Pittsburgh, Washington. Wilkes-Barre; Toronto, Canada; Havana, Cuba.

Southwestern Distributor:—R. V. Aycock Co., Kansas City, St. Louis, Tulsa, Houston.

Southeastern Distributor—Berry Asbestos Co., Atlanta, Ga.

California Representative:—J. A. Drummond, Los Angeles, San Francisco.
H. G. Sperry & Company, Utah, Idaho, Nevada, and Washington Representative:
Offices—Salt Lake City and Seattle.

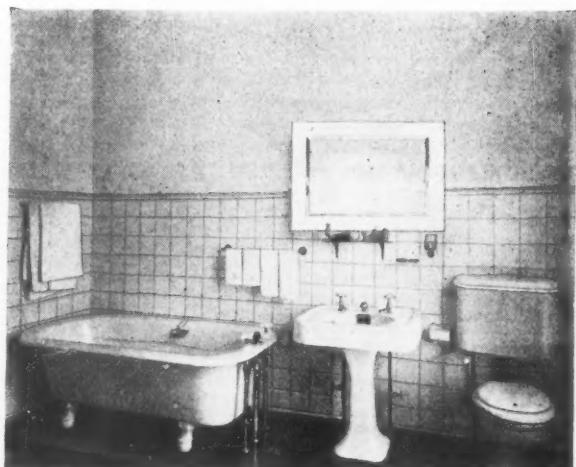
F. T. Crowe & Company, Washington Representative: Offices—Seattle and Tacoma.
Dixie Asbestos Co., Birmingham, Ala.

Other distributors throughout the country.

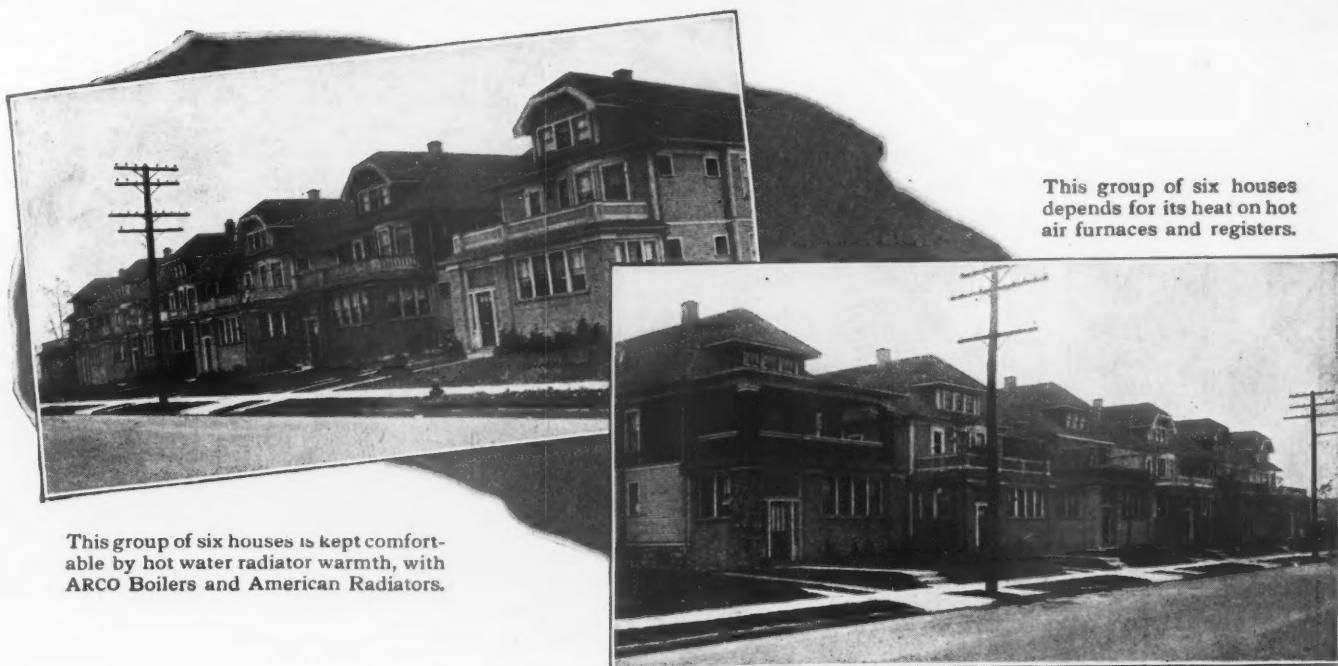


Showing Application of Linabestos Clapboard

ASBESTOS CANNOT BURN



Interior of Bathroom with press scored Linabestos



SIDE BY SIDE

One group sold—Why not the other?

THOMAS V. RAY, the Buffalo builder, says: "At the time we built these two groups of houses, which are side by side, we tried to save some money by installing hot air in six and IDEAL Boilers in the other six.

"We soon realized this was expensive economy. The six houses in which we installed IDEAL Boilers and AMERICAN Radiators sold within six months from the time they were built, while now, after two years, we still have three of the hot air houses left.

"Our new houses are all to be equipped with IDEAL Boilers and AMERICAN Radiators."

Everywhere builders and realtors, like Mr. Ray, have found that the house with an IDEAL Boiler and AMERICAN Radiators not only sells more easily, but that it usually sells for *more* and rents for more than the house with less efficient heating equipment.

Radiator warmth is a salesman. Try it.

AMERICAN RADIATOR COMPANY

Dept. T86, 1807 Elmwood Avenue, Buffalo, N.Y.

Sales offices in all principal cities

IDEAL BOILERS AND AMERICAN RADIATORS FOR EVERY HEATING NEED





Le Roi Repair Cost on Hoists!

Le Roi Engines' claim to dependable power is an earned one. It is backed by performance. Think of it—all Le Roi Engines on hoists showed a repair cost of only 57c an engine per year. This figure covers the past four years when construction equipment more than ever had to perform dependably and constantly to safeguard the contractor's profit.

An engine that shows such a surprisingly low up-keep cost must be reliable—it is not guilty of costly shutdowns. And, likewise, does not throw a husky crew into idleness. The Le Roi does this exacting service because it is built right—made with all the painstaking care and precision known

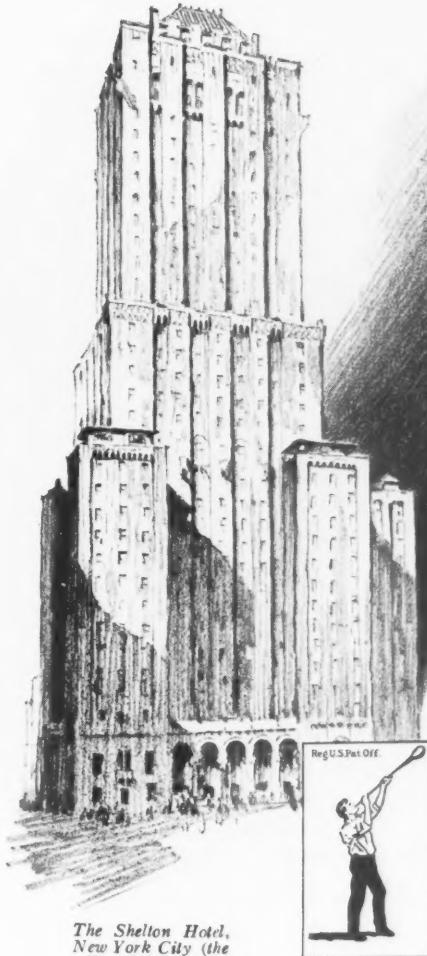
to engine builders. Every Le Roi that leaves the plant successfully passes all tests and inspections and is fit for duty.

Even though Le Roi Engines are made in three sizes ranging from 3 to 15 H. P., 85 percent of the parts are interchangeable.

Le Roi Company, Milwaukee

LE ROI ENGINES

for dependable power!



*The Shelton Hotel,
New York City (the
tallest hotel in the
world), in which a
large percentage of
the fixtures installed
are equipped with
MONAX GLASS, in-
cluding the famous
Ainsworth "Archer
Model." Arthur
Loomis Harmon,
New York City,
Architect, Shelton
Holding Corpora-
tion, New York City,
Builder and Owner.*

The Shadow Chaser

HOTEL ILLUMINATION that produces gloomy Shadow interferes with the performance of service, detracts from general appearance of interiors and ultimately makes for dissatisfied guests. Only by writing exact specifications can it be certain that a lighting system will provide light that is adequate, efficient and cheerful—free from glare.

MONAX GLASS, "The Shadow Chaser," sprays light uniformly in all directions yet absorbs almost none of it. MONAX is an artistic glassware in a wide variety of design. Easy to clean, its lighting efficiency can always be maintained.

*Have your specification writer send for
illustrated catalog and professional
specification sheet in ready-to-file form*

MACBETH-EVANS GLASS COMPANY
(Eastern Division)
CHARLEROI, PENNSYLVANIA

MONAX GLASS

for Hotel Lighting

Nature has done you a good turn

In your conscientious endeavor to give the utmost in value and service in the buildings you plan and construct, nature has made it possible to furnish perfect walls.

In a restricted area in Northwestern Ohio there is a deposit of limestone which has never been equalled for purity and quality.

In the limestone quarried from this district, there is a "something" in the natural composition of the rock which makes lime of amazing properties—extra fine in texture, truly wonderful in plasticity (spreadability) pure white in appearance, extra strong in setting and as enduring as the ages.

Nature alone is responsible for this exceptional quality. Our long lime-making experience merely tends to carefully retain this splendid quality from the quarry to your walls.

This wonderful finishing lime is available anywhere and at any time. Specify it and use it. It will satisfy all concerned—the architect, the contractor, the plasterer and the man for whom the building is constructed.

Just ask for any one of our three brands—the quality is in the limestone.

The Woodville Lime Products Co.

645 Madison Avenue
TOLEDO, OHIO



White Enamel Gold Medal and White Lily. Finishing Hydrated Lime

"The Quality
is in the Limestone"



Wallace Machines for Profits



*Wallace
Portable
6" Jointer*

EVERY season is a busy season for the carpenter-contractor equipped with Wallace Portable Machines, for they can be profitably employed turning out mill work in the shop whenever they are not busy out on a construction job. This man makes a fine profit making fluted porch posts during the dull season.

Eliminate Competition

You can get the edge on competition with the help of your Wallace Machines, for your costs are lower and less time is required to finish the job. These facts enable you to underbid your competitors and still make a larger profit than they could, while doing work of uniformly higher grade.

Fast and Accurate

Wallace Portable Machines are fast on even the largest operation within their respective capacities. At the same time they are absolutely accurate on the smallest jobs,—jobs which could not be handled at all on a big machine. You can put a Wallace Saw or Jointer into the back of a Ford and have it working on the job in a few minutes.

Economical

Wallace Portable Machines are economical in first cost—a full set of them can be purchased for little more than the cost of one large machine of similar high grade construction. They are also exceedingly low in operating cost. They take their power from any light or power circuit, and are all direct-motor-driven—no belts to slip.

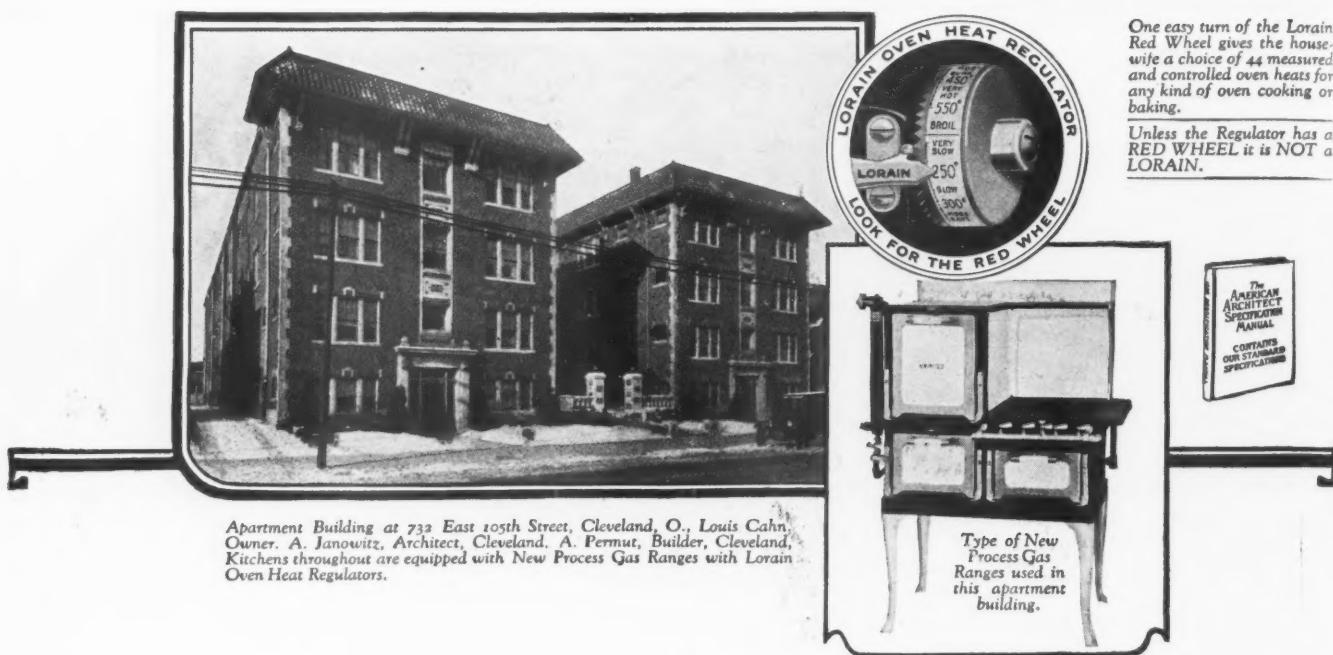
Wallace Portable Machines

Wallace 6" Jointer	Wallace Universal Saw
Wallace 4" Planer	Wallace Plain Saw
Wallace 6" Lathe	Wallace 16" Band Saw
Wallace Disc Sander	Wonder Spind'e Sander
Wallace Glue Pot, automatic heat control	

Write for Catalog 402C and price list.

J. D. Wallace & Co.

136 S. California Ave.
CHICAGO, U. S. A.



To Architects: Here are 10 Excellent Reasons for Installing Lorain-equipped Gas Ranges

EVERY time an architect selects certain equipment for the building he designs, he has a good reason for that selection. Perhaps in some instances he has two or three or even four reasons. If he has ten reasons then it's good evidence that the equipment must be as near perfect as possible.

Well, there are at least ten good reasons for the installation of Gas Ranges equipped with the Lorain Oven Heat Regulator, in structures where food is to be cooked and baked. These are:

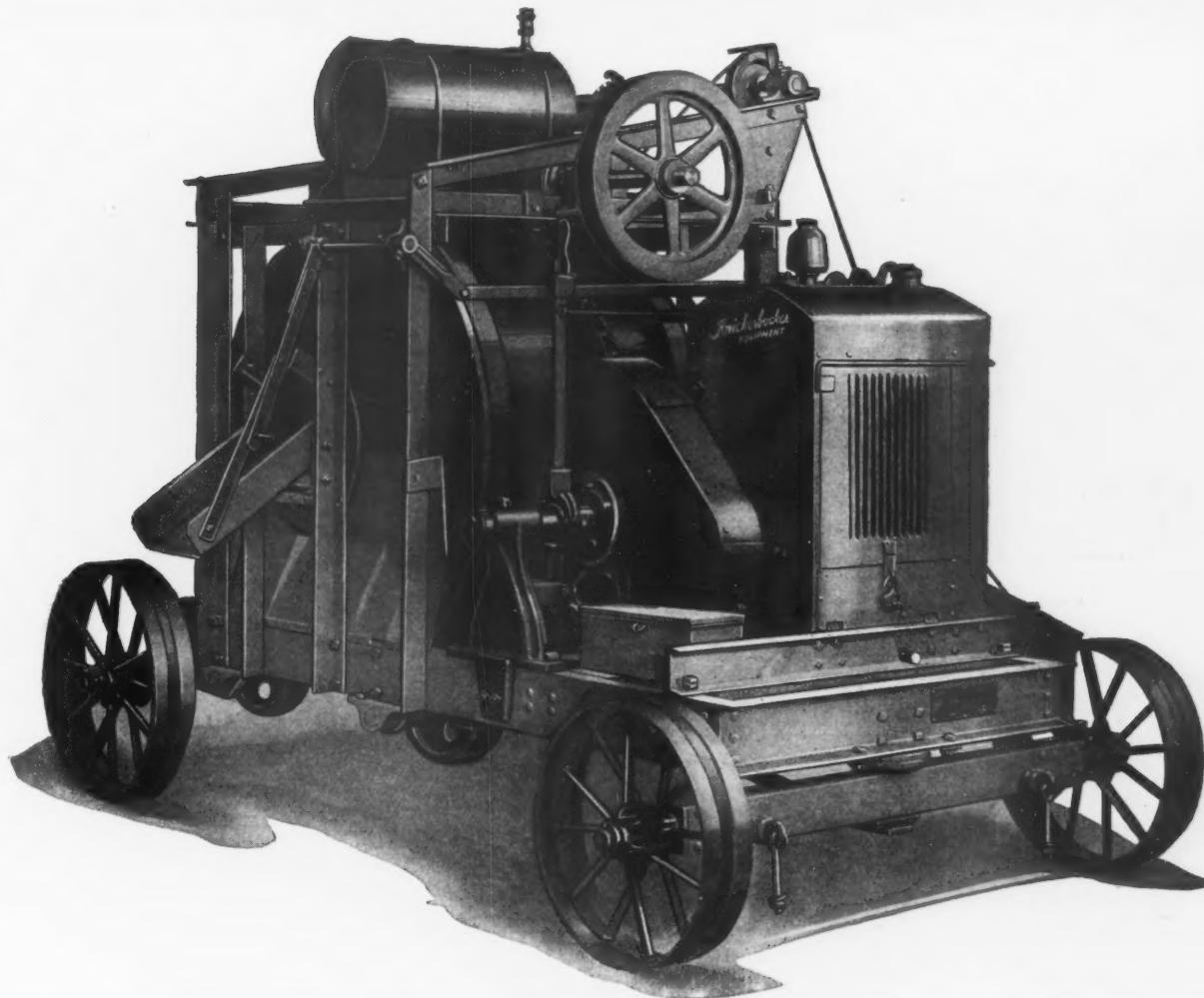
1. A Lorain Self-Regulating Oven enables the housewife to "set" the heat of the oven at any cooking temperature—and that temperature will be automatically maintained exactly until the gas is turned off.
2. Lorain enables the housewife to Bake, Boil, Roast and Can in the oven by the "Time and Temperature Method", which assures perfect results every time.
3. Lorain enables her to cook a Whole Meal at one time while she is miles away for hours. Everything will be deliciously done and ready to serve when she returns.
4. Lorain enables her to can fruits and tomatoes in the oven—easier, better and quicker than by any other method.
5. Lorain saves Food, Fuel, Time and Labor.
6. Lorain is easy to operate.
7. Lorain never gets out of order.
8. Lorain will last as long as the Range itself.
9. Lorain is endorsed by nationally-known cookery experts.
10. Lorain-equipped Gas Ranges are used in thousands upon thousands of homes—and by over 1300 schools and universities for instruction in Cookery.

If you want to build houses, apartment buildings or any other type of modern structure where the cookery equipment must be the "last word" in efficiency, install Lorain-equipped Gas Ranges. For specific data as to sizes, styles, finishes, etc., see 19th Edition, Sweet's Catalog, pages 2497-2506 inclusive. Other information will be gladly sent on request.

These famous gas stoves are equipped with the Lorain Oven Heat Regulator:
Clark Jewel, Dangler, Direct Action, New Process, Quick Meal and Reliable.

AMERICAN STOVE COMPANY, 233 Chouteau Avenue, St. Louis, Mo.
Largest Makers of Gas Ranges in the World

LORAIN OVEN HEAT REGULATOR



KNICKERBOCKER

The Un-Skimped[★] Mixer

There's only one idea governing the design and construction of Knickerbocker Mixers—to give the contractor the best possible machine of its capacity, at a price that will make it "a good buy."

This matter of price (what you pay for the machine) depends upon cost (what it costs us to build it).

We could eliminate the over-size drum dimensions.

We could reduce the number of mixing buckets.

We could change the angle of the discharge, make the charging opening smaller and less slop-proof.

We could eliminate the sub-hopper.

We could use a plain spool for winding the cable.

We could use old-fashioned grease cups, instead of Alemite.

We could build of lighter channels, angles, shafting, plates, castings, wheels.

We could equip it with a hopper-cooled engine.

We could do a lot of things to cut the cost to us and cut the price to you—but then it wouldn't be a Knickerbocker Mixer!

If you need concrete mixers, mortar mixers, plaster mixers or woodworkers, get the Knickerbocker catalog.



KNICKERBOCKER FEATURES

Over-size Drum.
Extra Discharging Buckets.
Drum speed, 18 R.P.M.
Multiple mixing action for every revolution.
Wide discharge chute, 55 deg. pitch.
Worm cable sheaves—cable doesn't wear against itself.
Bearing units replaced on the job.
Alemite lubrication.
LeRoi radiator-cooled engine.
Complete one-man control.
Every possible delay guarded against.

★ Hard to say, important to remember!



The Knickerbocker Company - 525 Liberty Street, Jackson, Michigan

for ROOFS



Will Your Roof Stand This Abuse?

From the icy blasts of winter, from the blistering rays of the sun; through wind-driven rain and beating sleet, insidiously and unceasingly, the elements are striving to claw through the roof above your head. Will the roofing you use stand this abuse—year after year?

You can know, definitely, before you spend a cent for roofing or a penny for repairs. Write for a sample of Beaver Vulcanite Slate-surfaced Roofing. (1) Twist it, bend it. (2) Kick it, scuff it. (3) Lay it on ice, then pour hot water on it. (4) Leave it on a hot radiator. (5) Soak it in

water. (6) Put burning embers on it.

Prove by these six daring tests that Beaver Vulcanite Roofing will not crack, "run," peel or curl under the most severe climatic conditions. Convince yourself that this husky, tough, fire-safe roofing will easily endure the abuse of actual use. Then compare it for quality, price and beauty.

Check and mail the coupon for samples and a copy of "Style in Roofs"—a comprehensive treatise on the proper type, design, finish and color of your roof. Mail the coupon now.

BEAVER

PRODUCTS



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

BEAVER PRODUCTS

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for ROOFS

Slate-surfaced Shingles and Slabs in many colors and designs

Special Re-roofing Shingles

Slate-and Smooth-surfaced Roll Roofing—in weights and finishes for every use

Built-to-order Roofs

Roof Paints and Cements

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for WALLS

Beaver American Plaster

Beaver Gypsum Lath

Beaver Plaster Wall Board

Bestwall

Gypsum Partition Block

Beaver Fibre Wall Board

Beaver Tile Board

Varnishes and Enamels for industrial use

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Samples and descriptions

FREE!

The Beaver Products Co. Inc.
Buffalo, N. Y., Dept. M-3

Gentlemen: Please send me your book, "Style in Roofs," and samples of Beaver Vulcanite Roofing. I am also interested in other Beaver Products listed below:

Name _____

Address _____

City State

An Invitation to Architects, Builders, Draftsmen and Architectural Students to Participate in a COMPETITION FOR SMALL FIRE-RESISTIVE HOUSES

	Prizes	
	Class A	Class B
First Prize	\$500	\$500
Second Prize	300	300
Third Prize	200	200
Fourth Prize	100	100
10 Mentions in each class	50 each	50 each

COMPETITION CLOSES APRIL 15, 1925

Contestants may submit as many designs as they wish in either or both classes. In case of a tie for any of the prizes offered the full amount of the prize tied for will be awarded each tying contestant.

PURPOSE OF THIS COMPETITION

1. To further encourage a higher standard of design and plan of the average American home, which because of its moderate cost is often built without the benefit of competent individual architectural service. Through the medium of this competition, it is hoped to make available a large variety of architecturally good small house designs in fire-safe construction to meet requirements in all sections of the country.

2. To widely introduce a new form of fire-resisting, permanent and economical construction through the use of Structolite Concrete construction. This is an improved method of fire-resistant construction for **walls, floors, partitions and roof**, adaptable for all classes of residences.

Structolite Concrete is a mixture of Structolite (a form of gypsum possessing great structural strength) with various recommended aggregates to form a rapidly setting mix for pouring monolithic construction. The structural result offers an exceptional combination of high compressive strength and light weight.

COMPETITION PROGRAM

Class A—Five-Room Bungalow

Plan—Shall contain living room and dining room (separate or combined); two or three bedrooms; kitchen and bath. Front entrance into hall, vestibule or living room. Service entrance separate. Cellar optional.

Size—Including porches and projections, not to exceed 20,000 cubic feet in accordance with measuring system given below.

Cost—Not to exceed 50¢ per cubic foot.

Exterior Walls—Must be Structolite Concrete faced with stucco, brick, stone, shingles or siding. Choice absolutely optional.

Partitions, Floors and Roofs—Materials optional.

Class B—Six-Room, 2-Story Dwelling

Plan—Shall contain living room, dining room, kitchen, three bedrooms and one or two baths. Front entrance into hall, vestibule or living room. Service entrance separate. Cellar required.

Size—Including porches and projections, not to exceed 30,000 cubic feet in accordance with measuring system given below.

Cost—Not to exceed 50¢ per cubic foot.

Exterior Walls—Must be Structolite Concrete faced with stucco, brick, stone, shingles or siding. Choice absolutely optional.

Partitions, Floors and Roofs—Materials optional.

Requirements for Both Classes A and B

With the exception of the exterior walls (which must be planned and specified for Structolite Concrete) all construction and equipment may be optional in accordance with good architectural and building practice.

Closets—There shall be one closet for each bedroom, one for linen and one for coats.

Size of Rooms—Only one bedroom can be smaller than 120 sq. ft. in area and this one not less than 90 sq. ft. All other room sizes optional.

Porches—Optional.

Measurement of Cubic Footage—Measurements must be taken from the outside face of exterior walls and from the level of the cellar floor (or from grade where cellar is omitted in bungalows) to the average height of all roofs as measured to a point one half the distance from the highest cornice to the ridge. Porches, if used, are to be figured at one-fourth of their total gross cubage if they project beyond the bearing walls and at full cubage if within the bearing walls, height to be measured from finished grade.

All cubage figures will be carefully checked before submitting to the jury, and plans exceeding the maximum will not be considered.

Style and Location—The designer is free to use any style he prefers for either Northern or Southern climates, and location may be corner or inside as no plot plans are required. As Structolite Concrete is a structural material which will take any facing equally well, it is left to the designer's discretion to use for facing any of the following materials, stucco, brick, stone, shingles or siding.

Competition Drawing Required

There shall be but one drawing on a sheet of white paper measuring 20x26 inches, with plain black border lines drawn 1 inch from edges, giving a space within the border lines of 18x24 inches. Tracing paper, mounted paper or cardboard prohibited. There should be a pen and ink perspective of the house projected

from a quarter-inch scale plan and without wash or color. The principal floor plans shall be drawn at a scale of 8 feet to the inch. A detail of one exterior feature shall be shown and a small vertical section giving ceiling and roof heights.

The plans must be blacked in solid and accompanied by a graphic scale. On the plan each room shall be named and dimensions given in clear lettering large enough to be easily legible.

Each kitchen plan must show the location of range, sink and cupboard. **A separate service entry is required in which the ice box shall be located.**

In a space enclosed with border line give computation of cubage figures, and notes suggesting exterior color scheme, stating briefly material selected for facing and roofing. All figures and notes to be made large enough to permit of a three-quarter reduction.

The drawings shall be in black ink: the presentation should be simple and the plans drawn clearly because of their future use in published form for the public. The drawings shall be titled—

Design for a Six-Room Structolite Concrete House
(or Five-Room Structolite Concrete Bungalow)

and signed by a nom de plume or device. It should be accompanied by a sealed envelope bearing the nom de plume and containing the true name and address of the contestant. Drawings may be delivered flat or rolled, packed to prevent creasing or crushing. (Deliver to Structolite Concrete Competition, care of The Architectural Forum, 383 Madison Avenue, New York.) **Must be received on or before April 15th, 1925.** Drawings submitted in this competition are at owner's risk from the time they are sent until returned although reasonable care will be exercised in their handling and keeping.

All competition drawings are to remain property of the contestants. The right is reserved by United States Gypsum Company to publish or exhibit them as required. The full name and address of the designer will be given in connection with each design published. Drawings will be returned to the contestants direct from the office of The Architectural Forum at the time when they are released by United States Gypsum Company.

Prize drawings will be published in The Architectural Forum. It is a condition of this competition that each contestant who is awarded a prize or mention, or whose design is selected for publication, agrees to prepare, if requested, in accordance with standard regulations to be given later, a set of working drawings on tracing cloth together with specifications covering his design. These working drawings and specifications shall bear the name of the designer as architect and become the property of United States Gypsum Company. If working drawings and specifications are required, reasonable payment will be made to the designer for such work at an amount to be agreed upon plus a royalty for every sale of a set of his plans by United States Gypsum Company.

Jury

The designs will be judged by three or five members of the architectural profession, representing different sections of the country. The jury will give consideration to the following points:

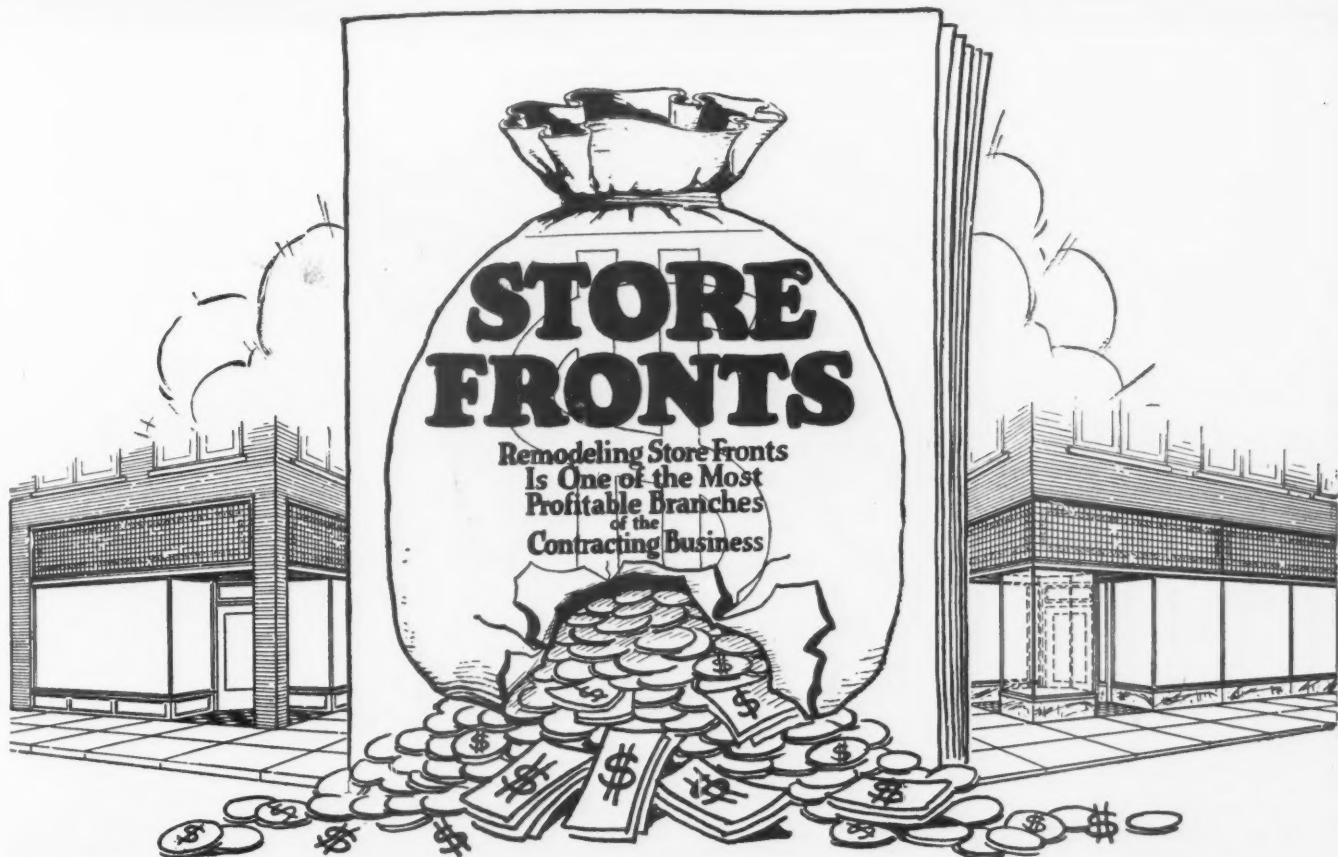
- Excellence of plan.**
- Attractiveness of design.**
- Practicability of construction.**
- Domestic efficiency of plan arrangement.**

NOTE

This Competition, having been ruled by the American Institute of Architects' Committee on Competitions to be one of an educational nature, is to be treated as an exception within the meaning of the Institutes' Circular of Advice. This ruling implies no opinion whatever by the A. I. A. Committee as to the merit of any materials or methods of construction.

A booklet giving Structolite Concrete Details will be supplied on request to United States Gypsum Company, 205 West Monroe Street, Chicago.

This Competition Conducted by the Architectural Forum for
UNITED STATES GYPSUM COMPANY



How to Get Contracts —at your own price

Are you working a territory where bids must be cut to the bone in order to secure contracts? Are you tired of taking jobs at prices that pay you mere wages? Then get into the store-front field.

Here's a branch of contracting that is not crowded. Contracts are readily secured at a profitable figure. The work is simple and can be handled by an inexperienced crew.

An hour or two of your time with our free

book on Desco methods will tell you how to enter this interesting and profitable business. Cut-throat competition will no longer cut into your profits. Tear out the coupon below and get into this branch of building while the field is open.

*Write us for the name of the nearest "Desco" Distributor.
Additional information in Sweet's Catalog.*

DETROIT SHOW CASE COMPANY
1654 FORT STREET WEST, DETROIT, MICHIGAN

181

Desco
METAL
STORE FRONTS

A complete stock of "Desco" construction materials carried in our New York City warehouse, 562 West 52nd Street.

Money Making COUPON

Detroit Show Case Company
1654 Fort St. West, Detroit, Mich.
Without obligation on my part you may send me your book on "Desco" store fronts.

Name _____

Address _____

City and State _____

Business _____



What Makes Wheel Barrow Economy?



"Lansing Equipment
for Contractors"



- Mixers
- Batch
- Continuous
- Mortar
- Barrows
- Carts
- Scrapers
- Hoists
- Block
- Machines



CONTAINS
COMPLETE
INFORMATION

Lansing Equipment
for Contractors

Send for
Your
Copy

LANSING - COMPANY, LANSING, MICHIGAN

Chicago

Boston

BRANCH WAREHOUSES

Minneapolis

New York

San Francisco

Kansas City

Philadelphia





Profit with "Pearl" NOW!

Many are in need of new screens now or can be shown how to add an attractive Sun or Sleeping Porch to their home.

This "PLAN" will help you

To assist you in pointing out to your prospects the simplicity of construction and installation of screened porches, we have prepared a Blue Print of a Porch Plan which we will send free.

Recommend PEARL Wire Cloth for economy it lasts longer, does not bag or sag, requires no painting and insures against repairs. PEARL Wire Cloth is the most universally used and biggest seller in branded screen materials today. Back of the enormous and steadily increasing sales of PEARL is its unusual wear quality due to its metallic coating—a special process owned and controlled exclusively by us.

Genuine PEARL has two Copper Wires in the selvage. Every roll carries OUR ROUND RED TAG,

We have a dealer in your town. See him or write us if you are interested in screening doors, windows or porches. Samples and literature FREE
Address Dept. "A"

THE GILBERT & BENNETT MFG. COMPANY

New York Georgetown, Conn. Chicago Kansas City

PEARL is made in REGULAR GRADE (12 x 13 mesh) and 14, 16, 18, 20, 24 and 30 Mesh also EXTRA HEAVY GRADE (16 Mesh only)
The best hardware dealers in your city sells "PEARL."

Clip and Mail this Coupon

The Gilbert & Bennett Mfg. Co.
Dept. "A"—Box 760
CHICAGO, ILL.



Gentlemen:

Please send me complete information on PEARL WIRE CLOTH and PLAN for screening porches.

Name.....

Street.....

City..... State.....



Like The Sterling Mark On Silver

YOU increase the value of the homes you build when you use materials of known quality and proved dependability.

One of these items which should not be overlooked is the screen cloth for doors, windows and porches. If you can point to the sticker on screens made of Jersey Copper Insect Screen Cloth or the tag on the end of every roll of Jersey, the home builder gives instant approval. The Jersey diamond on screen cloth is like the sterling mark on silver.

Jersey has won its extensive recognition due to inherent quality plus extensive advertising. It cannot rust because it is made of copper 99.8% pure. Due to a special Roebling process, it has stiffness

and tensile strength which compare favorably with steel. In 16 mesh it is a true insect screen cloth because it keeps out not only flies but also mosquitoes and other small insects.

Jersey is made in both bright and dark finishes, but the latter usually appeals to the housewife. It does not have to go through any weathering process. It is as nearly invisible as a screen cloth can be and stays that way.

Jersey Copper Screen Cloth can be obtained from most of the better hardware merchants and custom-made screen makers. If you cannot readily locate a distributor, write us. We will send you samples and tell you where you can get it.

Trenton

THE NEW JERSEY WIRE CLOTH COMPANY

614 South Broad Street

All Grades of Wire Cloth Made of all Kinds of Wire

New Jersey

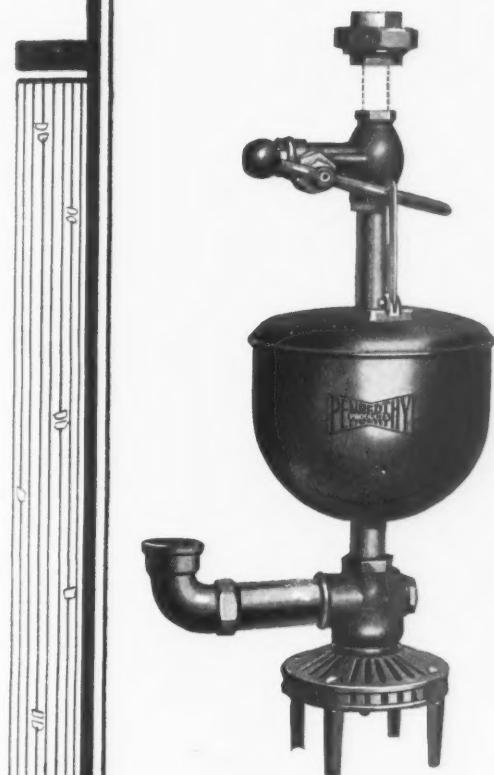


JERSEY

Copper Screen Cloth

Made of Copper 99.8% Pure

8 Reasons Why



The New



Model "R" Automatic Cellar Drainer

has greater sales possibilities than any other cellar drainer on the market today.

MORE EFFICIENT: Will remove more water in less time at lower pressure on the supply.

MORE ECONOMICAL: Requires a smaller amount of water for operation.

MORE RELIABLE: Positive in action with no delicate parts to wear out or get out of order.

MORE DURABLE: Bronze and brass used throughout—nothing to rust or corrode.

MORE COMPACT: Requires less sump space than any other drainer.

MORE POWERFUL: Long lever increases operating range to 100 pounds.

MORE ACCESSIBLE: All working parts easy to get at should it be necessary.

MORE SALABLE: Can be used where other cellar drainers would be useless.

Your jobber will supply you.
Write for details of construction and operation.

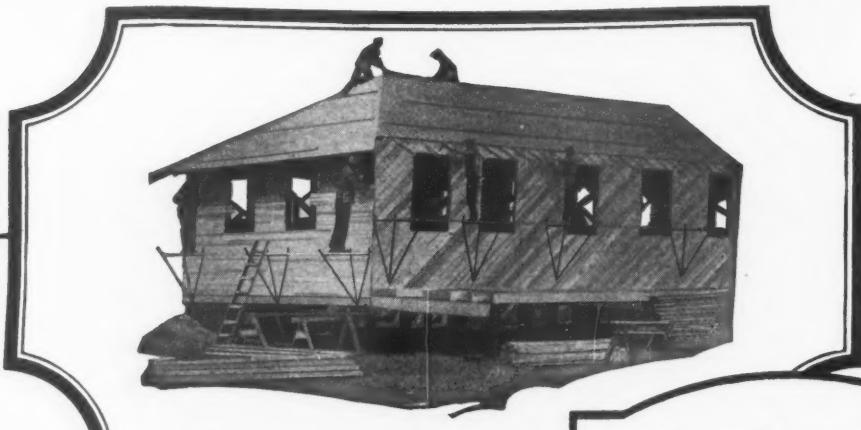
PENBERTHY INJECTOR COMPANY

Established 1886

New York Depot
71 Beekman St.

DETROIT
Michigan

Canadian Plant
Windsor, Ontario



They Are the Best Scaffold Brackets Made

So writes Mr. M. A. Steinwald, a successful general contractor of Canaan, N. Y. Read his letter which tells what he thinks about Reliable Scaffold Brackets—

Canaan, N. Y.

Elite Mfg. Co.,
Ashland, Ohio

Gentlemen:

I do building, painting and jobbing and use a number of your Reliable Scaffold Brackets. I expect to buy more of them some day. Will say that I think they are the best scaffold brackets made. I used them for putting on new roofs, painting roofs, and all kinds of work and find that they are absolutely safe in every way. They are the nicest and easiest brackets to put up that I have ever seen.

Very truly yours
M. A. STEINWALD

This letter is just like hundreds of letters we are getting all the time. Builders and contractors everywhere are telling us how much safer and more economical Reliable Scaffold Brackets are than the old wooden scaffold.

Send in your order and start saving money now. All of these brackets will save you lots of time and money—Roofing Brackets, Hood Type Bracket, Ladder Bracket, Corner Bracket and the Standard Scaffold Bracket.

Order now. We ship C. O. D. so you can see the brackets before you pay a cent.

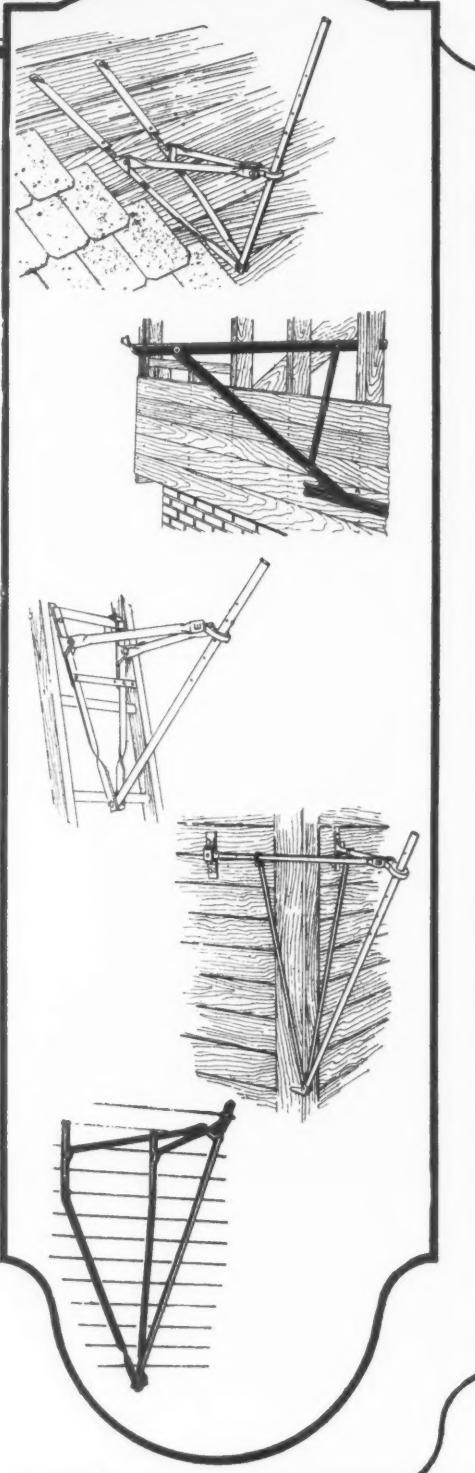
ELITE MANUFACTURING COMPANY
Dept. AB-3

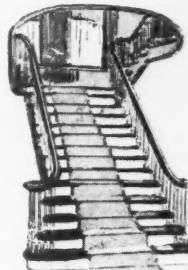
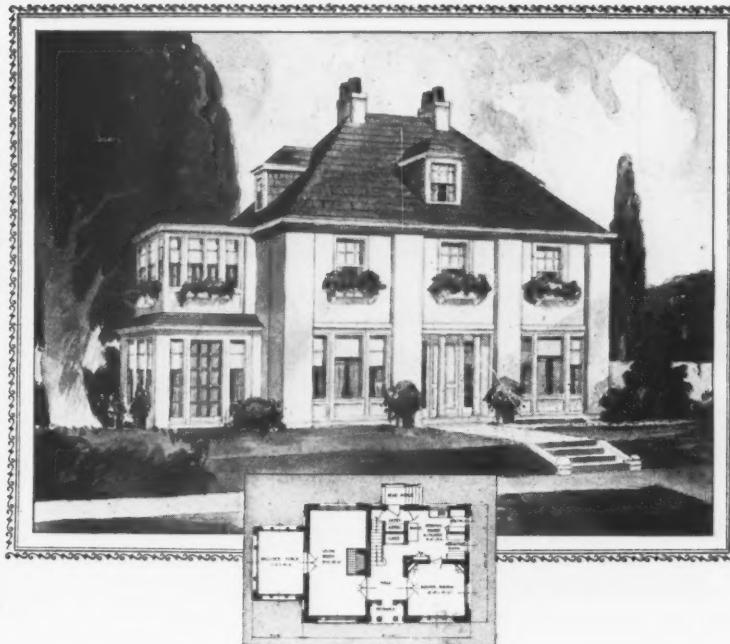
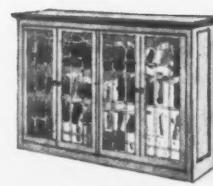
Reliable Scaffold Brackets
Patented Oct. 4, 1910
No holes to plug after they are removed

Elite Mfg. Company, AB-3
Ashland, Ohio

Please send me at your risk C. O. D. the following brackets:

Name _____
Address _____
City _____ State _____



Morgan Mirror Door
M 888Morgan Stairway
M 200Morgan Bookcase
M 527Morgan Linen Case
M 575Morgan French
Doors M 831

With the coming of spring, thousands of "renters" are looking forward eagerly to the day when the last rent check will be written. In the hands of the builder they will leave the countless details that make up their dreams of home. How well those details are worked out will often spell the difference between a satisfied and a dissatisfied customer.

Do not forget the charming entrance that means so much—the graceful stairway, at once a utility and a beauty spot—the bookcases, mantels, china closet, cupboard, cozy nook, to say nothing of the doors and trim. These are the vital things in the plans—vital to the beauty and comfort of the home.

Don't let just "woodwork" creep into the home specifications. Be careful. Remember that woodwork is a fixture. It cannot be easily torn out or

made over. Once in place, it is difficult and costly to change.

There is one safe way—one simple way—one way that gives you every assurance. Specify "Morgan Quality." Insist that the woodwork bears the famous mark like this MORGAN on every piece.

Three generations have made woodwork a lifetime study. Morgan stands for "quality," for great factories, wonderful machinery, vast forests of timber and "standardized" manufacturing methods which cut costs to a minimum.

That is why Morgan Quality is so inexpensive.

Morgan prices are guaranteed for periods of four months, thereby protecting your profits. Our standardized sizes enable you to speed construction.

Write for copy of our current Price Supplement. Or mail coupon for prospectus describing "Building with Assurance."



There is no added cost for Morgan Quality

"MORGAN-QUALITY"

STANDARDIZED WOODWORK

MORGAN WOODWORK ORGANIZATION

MORGAN SASH & DOOR COMPANY, Chicago, Ill.; Detroit, Michigan; Cleveland, Ohio
MORGAN MILLWORK COMPANY, Baltimore, Md.; Jersey City, N. J.; Greensboro, N. C.
MORGAN COMPANY, Oshkosh, Wis.; New York City



Look for this mark on
every Morgan product



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

440-page
Master Book on
Home Building



"Building with Assurance" (Second Edition) contains the information you need to help you cut costs, save time and avoid mistakes.

"Building with Assurance"

Indorsed by over 15,000
authorities

This great book shows page after page of homes of all types in colors—with floor plans. The home illustrated above, for example, with complete floor plans, will be found on page 48. In addition, you get help on room arrangement, interior decoration, lighting, heating, plumbing, landscaping, etc.

Mail Coupon for Prospectus

Our prospectus tells all about the book—shows beautiful homes in color, with floor plans. The prospectus is gladly sent free to those who mail the coupon.

Address nearest office, Dept. T-3.

Morgan Sash & Door Company, Chicago, Illinois
Morgan Millwork Co., Baltimore, Maryland
Morgan Company, Oshkosh, Wisconsin

Gentlemen: Send me at once, copy of your prospectus which describes "Building with Assurance."

Name

Address

Town State

Business



Whether it be a factory, a public building, or a house, its success as a structure depends in great measure on the permanence of the materials used. Economy of operation can only be attained by the elimination of repairs and replacements.

Standing Seam Horse Head Zinc Roofing need never be replaced. It will last as long as the building which it covers. It cannot rust—it will not leak. Zinc needs no protective coating.

Standing Seam Horse Head Zinc Roofing is the most economical metal roofing for public buildings, schools, hotels, factories, churches, farm buildings and residences.

You buy it by the hundred square feet, not by the pound. Its first cost is the only cost.

The New Jersey Zinc Company

Established 1848

Products Distributed by
The New Jersey Zinc Sales Company
(INCORPORATED)

NEW YORK • CHICAGO • PITTSBURGH • CLEVELAND • SAN FRANCISCO

The New Jersey Zinc Company, 160 Front St., AB 3, New York
Please send me a copy of the descriptive
booklet telling all about Standing Seam
Horse Head Zinc Roofing.

Name _____
Address _____

\$35⁰⁰ Puts It On The Job And A Whole Year's Time To Pay The Balance

What Users Say!

Hundreds of the most representative firms in all parts of the country are using our machines. Read what these have to say about the performance of the SPEED MARVEL.

Turner Construction Company Philadelphia, Pa.

"We have found it a most excellent outfit for miscellaneous sawing such as we have to do on our operation work. It has been in continuous use on various jobs for nearly three years, and apparently is in as good condition today as when we bought it."

Waterbury & Riley 84 Walker St., New York

"Your machine has done everything you said it would do, and is still in good condition after three years use. If we were in the market today, we would certainly buy the same machine. Something like thirty greenhorns have learned to use this machine without doing it any damage."

Geo. R. Morris Organization Morris Bldg., Baltimore, Md.

"We find that we can cut the framing of one of our houses with one carpenter and two laborers in the same time that we formerly did the work with five carpenters."

The Derr Lumber Co.

6326 Market St. Philadelphia
"By using your machine for dadoing and notching our frame sills we are able to increase our production fifty percent over that which we had on the fitting-up saw."



**The Beaver
Woodworker**

Because it is made right, does the work, and stands up under any and all conditions, we can afford to put THE BEAVER Woodworker at work for you on these terms: Only \$35.00 down, and a year's time to pay the balance. We can afford to put THE BEAVER to work on this basis because it is sure to make money for you, and makes it easy for you to pay it. The company back of THE BEAVER has had more experience in the design and manufacture of portable combination light-socket woodworking machines than any other manufacturer in the world.

THE BEAVER will rip or cross-cut 2-inch hardwood. It operates from any electric light socket with a $\frac{1}{2}$ H. P. Motor. There are no counter shafts and no idler pulleys to waste power. By loosening six bolts the machine divides into four parts—stand, base, jointer, and motor carriage, and one man can easily handle any part. It is practically twelve machines combined in one. Performs 23 different woodworking operations.

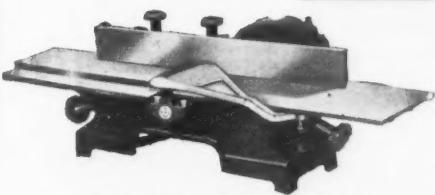
If you use a hand saw just one hour a day, then you can save money with the Beaver. And now that you can have THE BEAVER on such easy terms, don't waste time with a toy rig and don't take a machine on promise instead of performance. Read what representative users of our machines say, and then mail the coupon and let us arrange to save money for you, too.

We also manufacture THE SPEED MARVEL, shown in the smaller illustration below. This machine will crosscut 8-inch or rip 4-inch. There is therefore no advantage to us in stretching a point as to the capacity of THE BEAVER. The motor on the Beaver is the largest that can be safely operated from a light socket. For larger motors, electric light companies require special power line installation. Just tell us what your requirements are, and we'll give you sound, sensible suggestions.



**District Sales Managers
Wanted!**

There has been an awakening in the woodworking trades generally to the fact that the woodworking machines that are sold on performance instead of promise are those made by Hutchinson of Norristown. This is bringing us many inquiries from territory where we are not organized to handle them personally. Any carpenter can double his income with our machine, and that makes all of them prospects. If you have successfully sold typewriters, adding machines, or cash registers, we can train you to sell woodworkers. Lumber salesmen have been very successful in selling our machines as a side line, and some carpenters are making a lot of money selling woodworkers. For the right men we have a wonderful proposition.



The 4-inch Bench Jointer
with the Extra Long Table



**MAIL
COUPON
FOR
DETAILS**

Hutchinson
Mfg. Co.
105 Lafayette St.
NORRISTOWN, PA.

Please send me full particulars on the machines I have checked below.

The Speed
Marvel
Crosscuts
8-inch;
Rips 4-inch

- THE BEAVER
- THE SPEED MARVEL
- 4-Inch BENCH JOINTER
- 6-Inch JOINTER WITH STAND

NAME.....
BUSINESS.....
P. O. STATE.....
ST. or R. D.

Hutchinson Manufacturing Company

105 Lafayette Street

NORRISTOWN, PA.



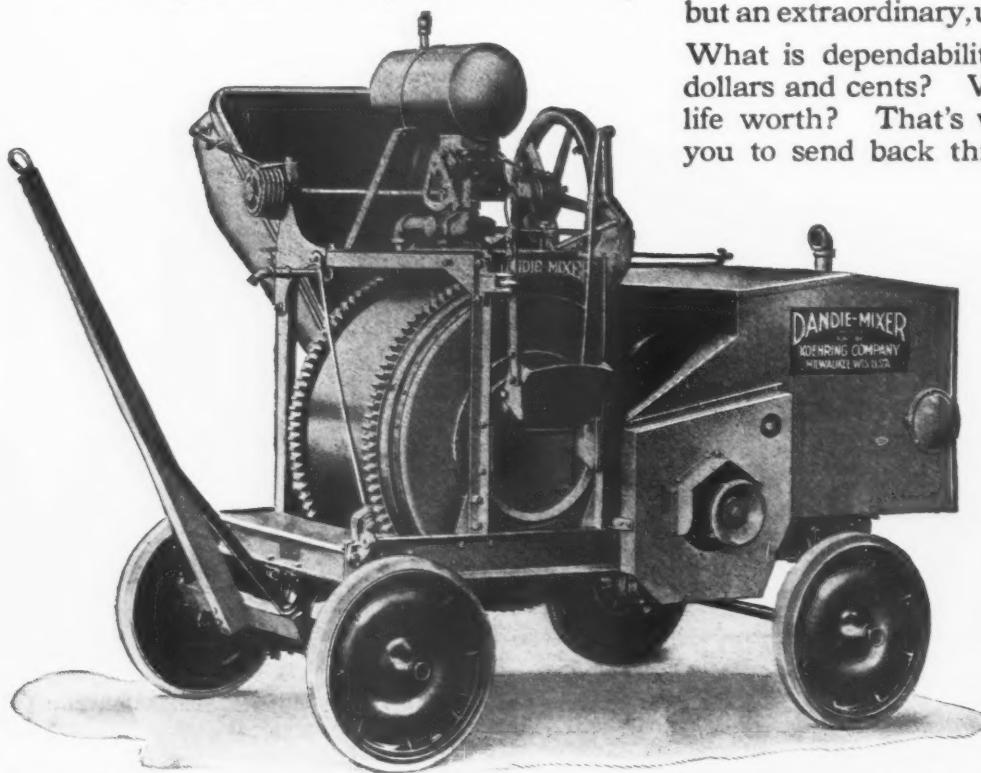
Send Back the Coupon!

RIIGHT there at the bottom of this ad! The coupon will bring back to you the Dandie catalog—giving you full details of this Koehring light mixer. It's light, easily portable, but it's every inch a *Koehring*.

You'll find this catalog downright valuable to you in showing what Koehring experience, Koehring standardization, and big volume make possible in the way

of giving you a strong, no-stop, long service mixer, and still stay within the price range for light mixers. You'll discover not only that the Dandie is an extraordinary mixer, but an extraordinary, unapproached value.

What is dependability worth to you in dollars and cents? What is long service life worth? That's what it's worth to you to send back this coupon.



Dandie Capacities

7 cu. ft. Mixed Concrete. Two or four cylinder gasoline engine. Power charging skip, or low charging hopper and platform. Rubber tired steel disc wheels.

KOEHRING
COMPANY

**Pavers, Mixers—Gasoline Cranes,
Draglines and Shovels.**

MILWAUKEE, WISCONSIN

Sales Offices and Service Warehouses in all Principal Cities

Foreign Dept., Room 1370, 50
Church St., New York.
Canada, Koehring Company

Mexico. F. S. Lapum, Cíaco.

de Mayo 21, Mexico, D. F.

Send Back this Coupon!

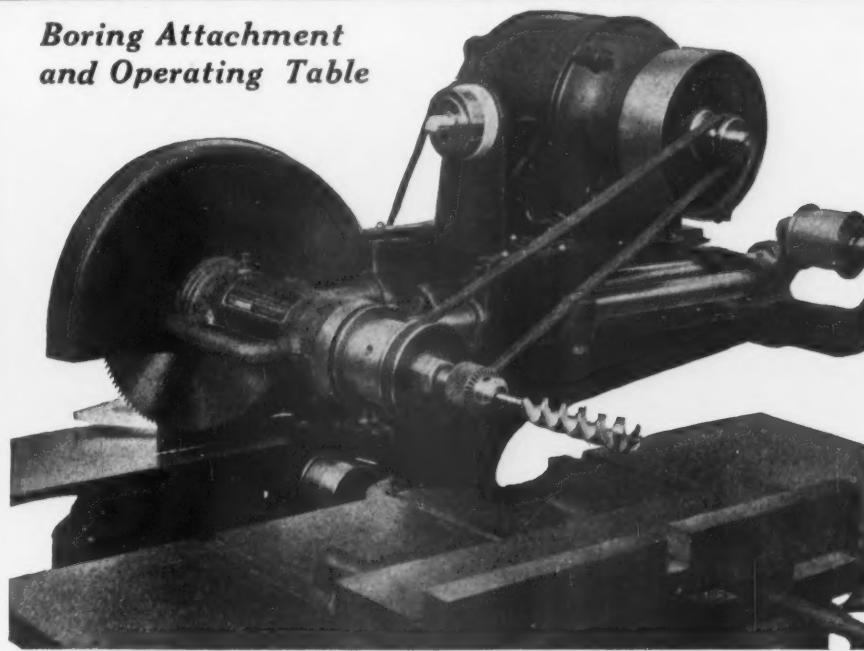
KOEHRING COMPANY Milwaukee, Wisconsin

KOEHRING COMPANY, Milwaukee, Wisconsin
Please send me by return mail catalog of Koehring Dandie Light Mixer. Also price with equipment as follows:

Name _____
Address _____

A 2259-1

III

**Boring Attachment
and Operating Table**

*Make your jobs come out the way
you figure them—or better—
Make shorter delivery promises,
and keep them—by having the*

20th Century Woodworker

No Motor to Pull

In crosscutting with the 20th Century Woodworker the operator pulls the saw only, the motor remaining stationary. This saves effort for the operator, reduces vibration, and makes for more accurate work.

With a 10-inch saw and a 1 H. P. Motor the 20th Century Woodworker will rip or cross-cut 3-inch hardwood. With a 12-inch saw and 1½ H. P. motor it will rip or crosscut 4-inch hardwood.

"We finished the job way under estimated cost, and still made more money than we figured on"—

One way to make more profit in 1925:—Don't use manual labor on work which machinery will do better and more economically. By lowering building costs the 20th Century Woodworker will bring more business for you and more work for your men. It is far cheaper to use the 20th Century Woodworker than to get along without it. Within reason, you can buy it on your own terms. Mail the coupon now and get full particulars.



Ball-Bearing Construction

Mail Coupon for Details →

Cresson-Morris Co.

18th Street &
Allegheny Avenue

Philadelphia
Pa.

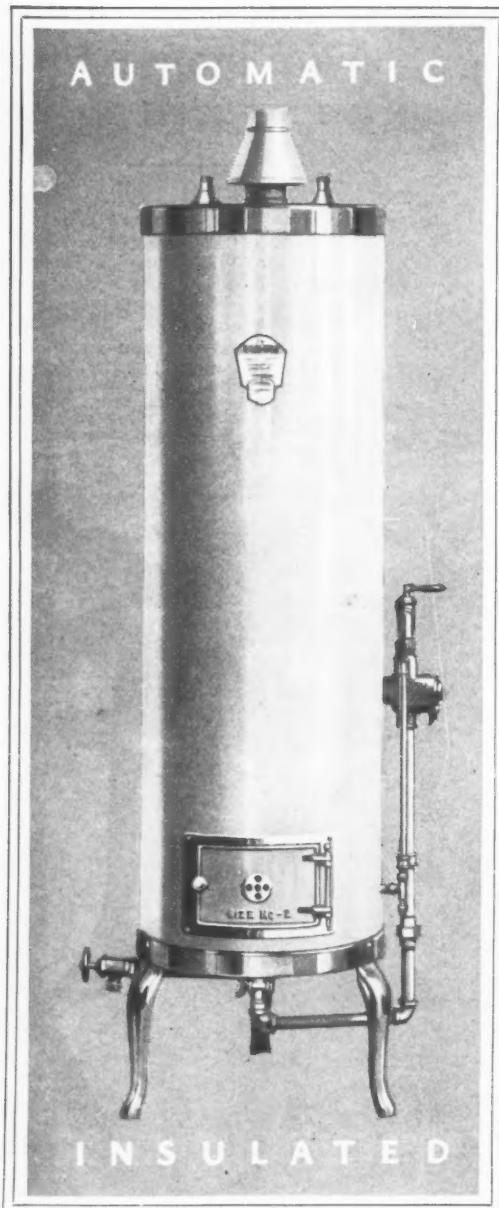
Cresson-Morris Company
Please send full particulars on the 20th Century Woodworker
Name _____
Line of Business _____
P. O. _____
St. or R. D. _____
State _____



The 5-in. Jointer
on the 20th Century Woodworker
in workmanship
and finish is the
equal of any
separate
jointer.

PREMIER GAS WATER HEATERS

*Home builders and buyers appreciate the comfort
and convenience of Instant Hot Water*



RECOGNIZED by home builders and buyers as essential both to health and comfortable living, instant hot water is made practical and economical by the *Premier* storage-type water heater.

The *Premier* is automatic, dependable, thrifty. Built in four different sizes to meet various home needs, it is priced to fit any building or remodeling budget.

Here are some reasons why the *Premier* is the most satisfactory gas water heater made for domestic or shop use:

Instant Hot Water is delivered, piping hot, at any faucet, night or day—a quart or a tubful, from the stored supply.

Simplicity marks *Premier* construction. A single blue-flame burner. No complicated moving parts to get out of order. No coils to "lime up," waste fuel and require expensive removal for cleaning and ultimate replacement.

Durability insures a long life of trouble-free service. The tank is of double extra heavy construction, heavily galvanized. The heating element, thermostat and valves are sturdy in design and dependable in operation.

Economy. It saves gas because it starts and stops itself. Its burner is lighted only when more hot water is needed. The Thermoseal insulation covering tank locks in the heat like a giant "Thermos" bottle. Its outer steel jacket is finished in *Premier* gray enamel with nickel trim.

Four thrifty sizes. Premier No. 2, \$125 at factory, the right size for average home

The Premier Automatic Water Heater can be obtained promptly from established plumbing contractors

CRANE

Address all inquiries to Crane Co., Chicago

GENERAL OFFICES: CRANE BUILDING, 836 S. MICHIGAN AVENUE, CHICAGO

Branches and Sales Offices in One Hundred and Forty-eight Cities

National Exhibit Rooms: Chicago, New York, Atlantic City and San Francisco

Works: Chicago, Bridgeport, Birmingham, Chattanooga and Trenton

CRANE EXPORT CORPORATION: NEW YORK, SAN FRANCISCO, SHANGHAI
CRANE LIMITED, CRANE BUILDINGS, 386 BEAVER HALL SQUARE, MONTREAL

CRANE-BENNETT, LTD., LONDON

CIE CRANE: PARIS, NANTES, BRUSSELS

Nelson

MASTER•SLAB•ROOFS

A builder's taste and individuality are truly expressed in a Nelson Master Slab Roof. With its warm colors he adds cheer and coziness to the simple little cottage. The great mansion he dignifies and strengthens with a cooler blend.

Whatever the type of building, there is a Master Slab Roof which will not only beautify but protect it for years to come. May we show you the proof?

The B. F. Nelson Manufacturing Co.
Minneapolis, Minn.



Notice the beautiful lines of a Nelson Master Slab Roof. The colors become softer and more harmonious with the changing seasons. Write for free samples of the six basic colors, moss green, autumn brown, Spanish red, velvet black, purple or maroon.

HOW TO ADVERTISE BUILDING SUPPLIES

The advertising of building supplies presents a greater problem than that of any other merchandise because there are so many different groups which influence the sale.

Other merchandise usually goes from the maker to the jobber, to the dealer, to the consumer and at each step a purchase is made. But with building supplies one must first persuade architects and contractors together with a half dozen more groups before he can always be certain his merchandise will flow through the channels of distribution.

The combined circulation of the five publications in which our clients are using color advertising reaches the leaders in the following groups:

Architects and Engineers
Building Supply Dealers
Contractors and Builders
Draftsmen
Interior Decorators
Libraries, Colleges and Schools

Manufacturers and Industrial Users
Prospective Owners
Realtors
Students
Wholesalers

By advertising to the leaders in these different groups and using full color once each month, our clients are making the maximum impression on the entire field at the minimum expense.

MAC MARTIN ADVERTISING AGENCY

Security Building, Minneapolis

There's a saving of time in getting Andersen Frames, too. Any Andersen dealer can deliver 121 different sizes right from stock, whenever the builder wants them.

Write for latest information on Andersen Standard Frames, stating whether you are an architect, contractor, dealer or prospective home owner.



Look for this trade mark—it appears on every Andersen Frame.



Ten minutes and the frame's up

Any amateur can put up an Andersen Frame in fifteen minutes. Donald MacKinnon, Contractor, 91 Adelaide St., Belleville, N. J., writes that Andersen Genuine White Pine Frames "Can't be beat—Put together in seven minutes." The seven units are so accurate that no tinkering is necessary. On a twenty-frame house this saving of time and labor counts up.

Andersen Lumber Company
Bayport, Minnesota

Andersen
FRAMES



“Snaking the Logs”

THE first move of the giants of the forest after they have measured up to Shevlin standards is known as “Snaking the logs.” Every winter scores of such teams are dragging Shevlin logs over the rough, snow covered roads in preparation for the next season of building. Each step brings pine of Shevlin quality that much nearer to you and your needs.

Shevlin, Carpenter & Clarke Company

900 First National Soo Line Bldg., Minneapolis, Minn.



What Is Good Insulation?

YOU certainly know that wool, curled hair, cotton batting, eider down and feathers are about the best heat insulators. All of them light in weight yet big in bulk.

It isn't the weight or the density that makes good insulation. The good insulators—all of them—have as the foundation of excellence **dead air**. And dead air is good because it can neither receive nor communicate heat by radiation.

Now when building a house, it has been customary to make the interior walls of plaster for two reasons; first, to give a solid background for decoration, and, second, for sound and heat insulation. It may not be generally known, but usually a sound-proof room is well heat-insulated.

"Cornell" has been used quite extensively instead of plaster and lath for walls and ceilings because it possesses both the necessary requirements; in fact, "Cornell" has an outstanding virtue as an insulator of heat and sound.

The reason of this is, that while both "Cornell" and "Super Cornell" have sufficient rigidity as a wall covering, they are lighter in weight and therefore possess a much greater insulation value than heavier and more rigid boards.

Remember, please, that neither weight nor stiffness (by themselves) add to the value of a wall covering in so far as heat insulation is concerned. This is a scientific statement well worth remembering. The millions of dead air cells in each square foot of "Cornell" is your safest insurance that if laid properly on walls it will **keep rooms warm** in winter and cool in summer.

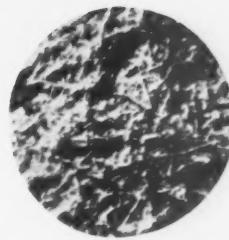
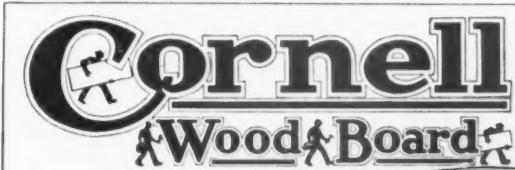
"Cornell" in any quantity and in all sizes is quickly available for hurried jobs, large or small, through our distributors. Cornell dealers everywhere are always near these sources of supply.

As "Cornell" is made wholly of wood and built to a standard and not down to a price, its quality is constant and reliable.

CORNELL WOOD PRODUCTS CO.

190 N. State St. Chicago

Mills: Cornell, Wisconsin



Dead air is the best insulator known. The meshing of Cornell Wood fibres produces innumerable dead air pockets as are shown in this microscopic photograph, enlarged 15 diameters. Insulation means so much that we stress this point. Cornell is purposely made to give the absolute maximum of insulation. Boards of dense construction like plaster or pressed paper lack sufficient dead air cells to assure this most important requisite.

Cut Out Coupon and Mail Today
Cornell Wood Products Co., 190 N. State St., Chicago
Please send samples of
"Cornell"
Name _____
Address _____ AB-3
"Super Cornell"



There is true economy in CURTIS WOODWORK

HERE is another example of the practicability of Curtis Woodwork for builders and contractors. Every item in this attractive entrance hall was made by Curtis. And this is just one of the endless opportunities for distinctive interiors which Curtis Woodwork makes possible.

Curtis designs are known wherever better homes are built. Curtis craftsmanship is a recognized factor among builders and contractors who take pride in the homes they build. But, best of all, Curtis methods and their large producing facilities make it possible for you to give your customers far greater advantages than they would get from ordinary "millwork." And at a lower final cost, too.

Let the nearby dealer show you the wide variety of designs and styles from which you may choose your entrances, doors, windows, interior and exterior molding—as well as the numerous items of built-in features. He can also show you how greatly Curtis Woodwork will add to the value of your homes.

THE CURTIS COMPANIES SERVICE BUREAU 370 Curtis Building, Clinton, Iowa

Curtis Bros. & Co., Clinton, Iowa; Curtis & Yale Co., Wausau, Wis.; Curtis, Towle & Paine Co., Lincoln, Nebr.; Curtis, Towle & Paine Co., Topeka, Kan.; Curtis-Yale-Holland Co., Minneapolis, Minn.; Curtis Door & Sash Co., Chicago, Ill.; Curtis Sash & Door Co., Sioux City, Iowa; Curtis Detroit Co., Detroit, Mich.

Curtis Companies Incorporated, Clinton, Iowa
Sales Offices in: Pittsburgh, New York, Baltimore



Curtis Stair—C-912

An example of the true economy of Curtis Woodwork is illustrated here. The savings in cost for stair parts alone is well worth considering. For instance, a stair volute, most intricate from the manufacturing standpoint, is priced at less than half the cost of but a few years ago. Other items are equally as reasonable.

**1866
CURTIS**

Curtis Woodwork is identified by the mark above. Whatever you buy—sash, door, molding, or interior woodwork—see that it bears this trademark. Curtis Woodwork is sold under the "1866 Curtis trademark" by Curtis dealers east of the Rockies.

ATKINS SILVER STEEL SAWs

A He-Man's Saw

The Four Hundred Saw pictured on this page is in demand by master carpenters and artisans who want something above the average in quality and finish.



Are You Using This Saw?

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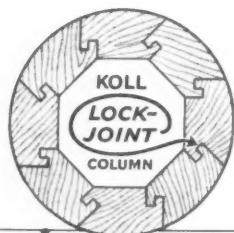
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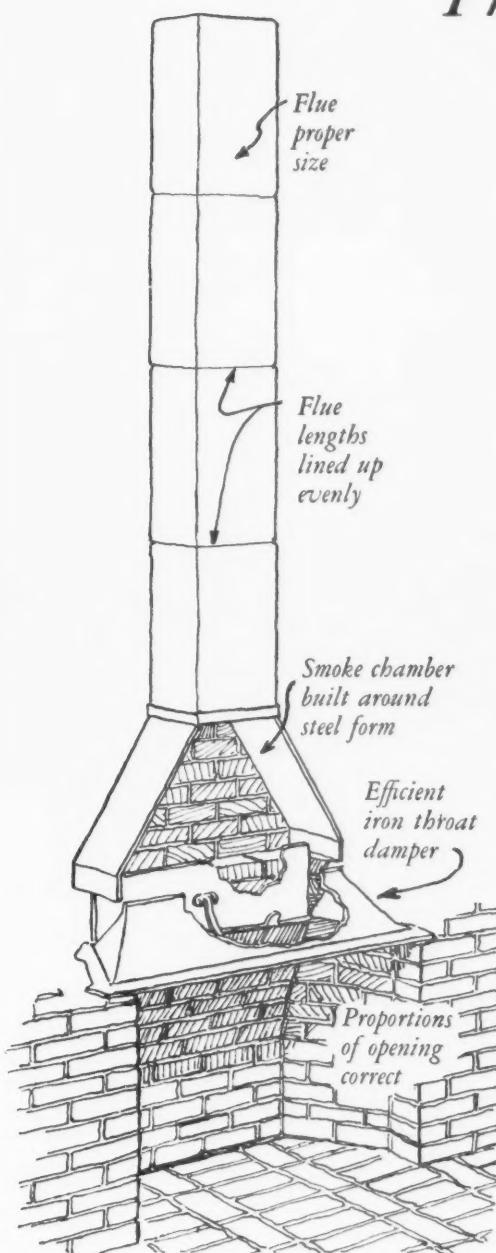
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WHAT DOES FIREPLACE SUCCESS DEPEND UPON?

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THE opening of the fireplace has a great deal to do with the actual amount of heat which is thrown out into the room, as well as the efficient working of the fireplace.

If the fireplace is too deep, the sides will cut off considerable heat radiation, and if too shallow, the smoke is likely to find its way out into the room.

After extensive experimenting it has been determined that a depth of 18 inches at the hearth is ample in fireplaces up to 48 inches in width, and 20 to 24 inches for wider fireplaces.

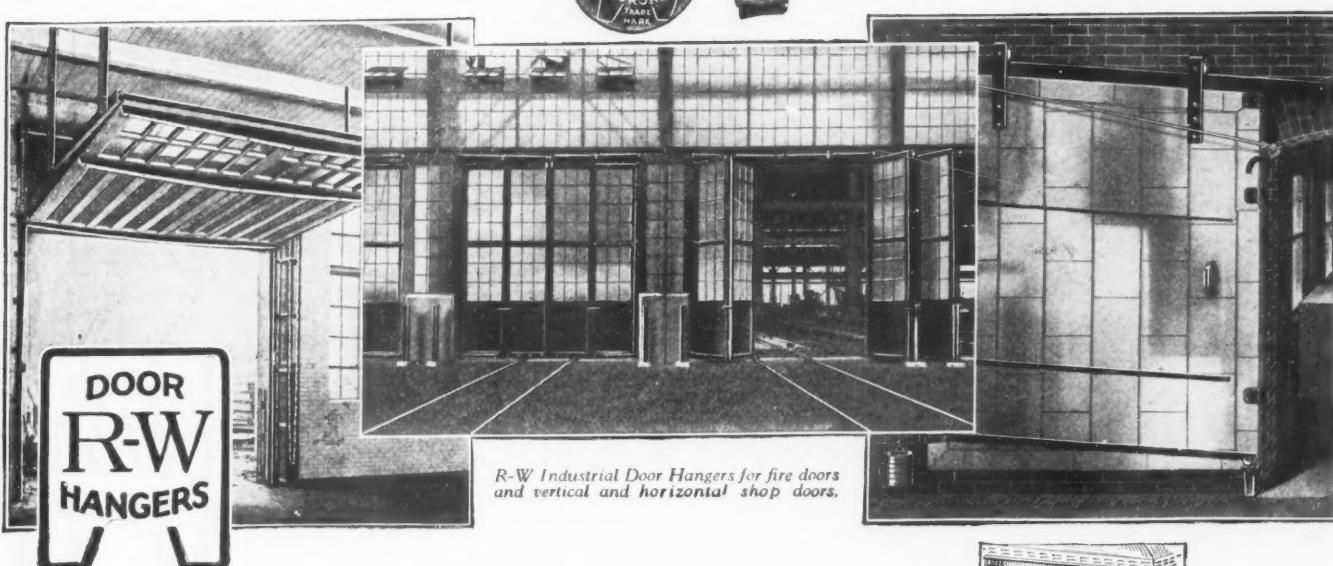
Splayed sides make the back of the fireplace narrower than the front and give the fireplace the shape of a reflector, thereby throwing out into the room a maximum of heat. This splay should be about 5 inches to the foot.

The height of a fireplace should not be greater than the width, and 30 inches is ample for fireplaces up to 48 inches wide. For higher fireplaces 32 to 34 inches is sufficient. When the architecture of a room demands that the height of a fireplace be greater than the width it is best to get in touch with the H. W. Covert Company and have a plan drawn up by our service department.

Curving the back of a fireplace should be avoided, as this is likely to throw the smoke out into the room. It is safer to run the brickwork up straight three courses and then slant the back forward in a straight line to meet the rear of the damper.

This is the first of a series on "Successful Fireplaces," and if you will send us your name and address we shall gladly forward to you a complete set of the series

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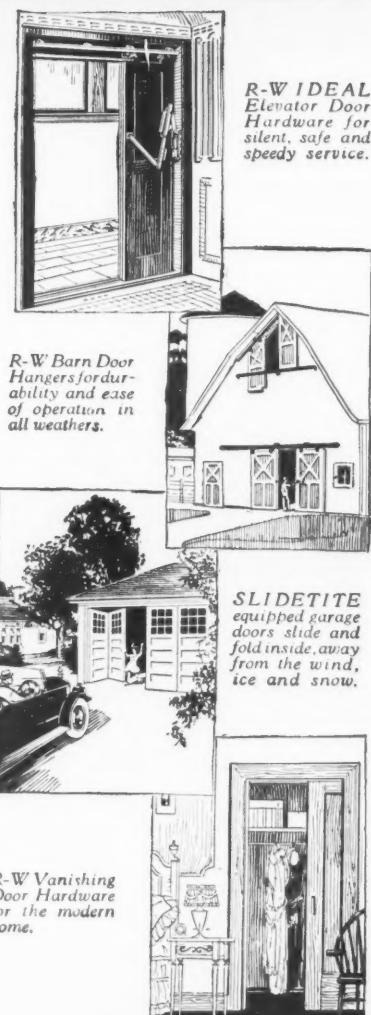


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The Strength of Carney

TWO years ago Carney was specified and used for laying up the brick, tile and terra cotta in the first great section of the Wrigley Building, Chicago.

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Such a convincing and striking proof of the strength and quality of Carney naturally induced the builders of the new North Section to specify and use it again in that structure.

So the entire Wrigley Building stands completed today a lasting monument to the strength, durability and economy of Carney.

Carney is the perfected cement for brick and tile mortar.

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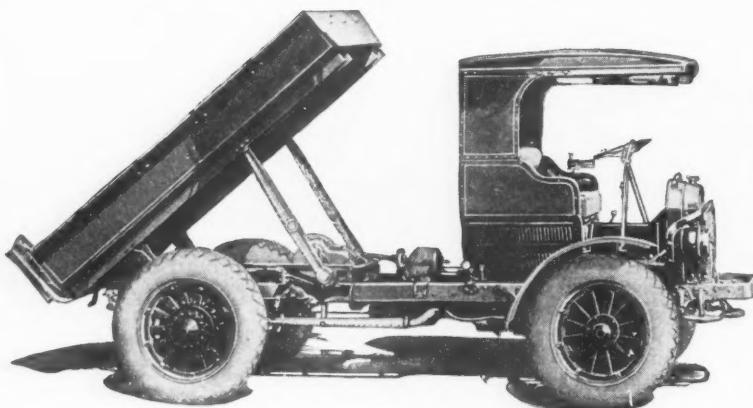
District Sales Offices: Leader-News Building, Cleveland; Chamber of Commerce Building, Chicago; Omaha National Bank Bldg., Omaha; Syndicate Trust Building, St. Louis; Book Building, Detroit; Builders' Exchange, Minneapolis.

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Architects: Graham, Anderson, Probst & White, Chicago, Ill.
Contractor: Lanquist & Ilsley Co., Chicago, Ill.

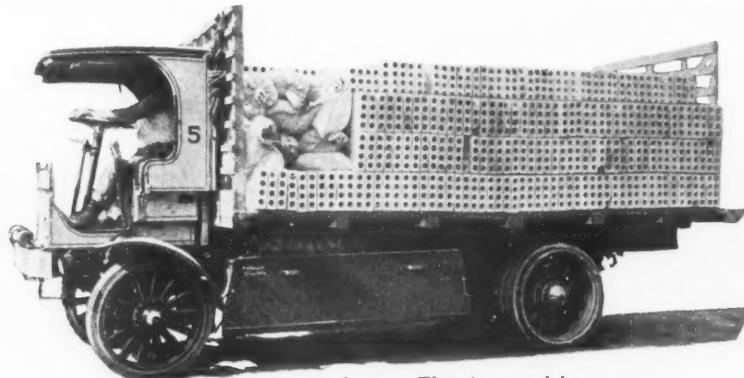
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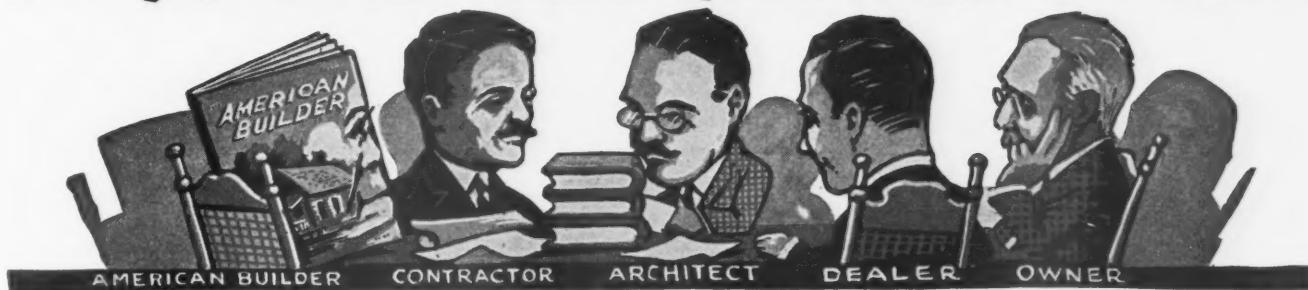
* Indicates Direct Factory Branch

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gas and electric trucks

EITHER OR BOTH - AS YOUR WORK REQUIRES

AROUND THE FA'MILY TABLE



We Yield to Your Wishes

And Change Date of 1925 Annual from April to June

SINCE making the announcement last month on this page that April had been picked for this year's Annual Reference Number, similar to the Big June Number of last year, we have been deluged with many letters of protest. Both subscribers and advertisers seem to prefer the June date of issue, the same as last year.

We are accordingly postponing two months the Big Reference Number for 1925 and will issue it as our Big June Number, the same as heretofore.

We are very glad to yield to the wishes of the majority in this matter.

Several facts have been pointed out since the announcement of last month which are really important and should control the date of issue of the Annual Number.

In the first place, the 1924 Annual of last June is still in active use in thousands of offices where it is being referred to constantly as a book of reference and a buyers' guide. It would be unfair to this great book to cut short in any way its effective life. It should have—our friends and advisors have pointed out—a full twelve months, June to June, without interference from any other similar volume.

The reference data in the 1924 Annual, and, in fact, in every issue of the AMERICAN BUILDER is of permanent value and does not go out of date. We know personally of hundreds of instances where copies of the AMERICAN BUILDER five and ten years old are still in active use.

Nevertheless there is always the tendency to use the most recent issue of the AMERICAN BUILDER in preference to an older one. So the general feeling seems to be that the Big June Issue of 1924 should have its full year of first choice circulation and use.

Then, furthermore, it has been pointed out that June is the most desirable date of issue from a business building point of view. The spring building activity is always assured. There is never any question about the building industry having all it can possibly do in

April and the other spring months. However, along in the summer sometimes the work falls off and a mid-summer dullness develops. A magazine of unusual interest, size and importance issued in June will go a long way to stimulate building activity and keep things going.

If our readers will use this New Big June Issue of this year the same as they did last to go out and interest prospective owners, there will be no let-up in building activity throughout 1925.

The monthly records of building activity last year show a remarkable steadiness of volume right through the summer and into the fall and winter building seasons. This fine record has been largely attributed to the effective work which was done by our outstanding June Issue of last year in the hands of the 85,000 active and aggressive men of the building industry who made such effective use of it all through the year.

Accordingly the 1925 Annual Number Will Be Issued June 1st.

It will be a book of more than six hundred pages, bound in special strength covers for long life and beautifully lithographed in four colors and gold. Our artists have produced a painting which surpasses that of last June in human appeal, strength and attractiveness. Our editors, architects and special writers are at work on additional features that will add greatly to the value of this 1925 Annual Number.

Printing orders have been placed for 85,000 copies, but it begins to look as though this would not be enough and the edition may have to be still further enlarged. We do not want any of our friends to be disappointed in getting their June magazine, so if you are on the regular mailing list make sure that your subscription is fully paid up to include June, or if you are in the habit of buying the AMERICAN BUILDER on the news-stand, better place your order now and have the news dealer lay your copy aside for you, as at only 35c each these big books will very soon be snapped up, and the dealers will have only a very limited supply.

You will notice from the statement on the front cover this month that the AMERICAN BUILDER circulation is steadily growing. We are up to 82,000 now. Considering this, the 85,000 planned for June will scarcely be enough. Better write and tell us if you think we will need more, and we will wire the mill to ship us a few more carloads of paper.

EDITOR AMERICAN BUILDER.



Res. of James Gilmore, Esq., Reg. Arch. Cincinnati, Ohio, Bishopric Ivory Cream Stucco over Bishopric Base on all exteriors.

How Bishopric provides lasting beauty and protection

Rare beauty of shade and texture, with permanent protection from the elements are exclusive Bishopric qualities that are being appreciated more and more by those interested in home-building. BISHOPRIC is a super-stucco with greatly increased strength, thus providing durability and protection so vital to every building, whether it be large or small. In Bishopric only can be obtained the wide variety of beautiful shades and textures now demanded by those who appreciate the best. With Bishopric, beauty and protection go hand in hand.

Tensile strength tests show BISHOPRIC far superior to other stuccoes.

BISHOPRIC is fireproof, magnesia rock used is the same as that used to line furnaces and smelters — Tremendous heat has no effect on it.

BISHOPRIC is thoroughly waterproofed by a secret process shutting out moisture, cold, heat, wind and vermin.

BISHOPRIC Insulation Qualities are practically perfect, retarding heat and cold, eliminating objectional noises.

BISHOPRIC requires no painting or renewing — A wall built to stand for generations.

In mansion or bungalow, Bishopric Stucco has a place, whether laid over stately lines or designed after those quaint cottage effects, now so popular.

Bishopric Stucco endures in every clime, retaining its strength and its original color in temperatures of either extreme. Economical in original cost, negligible in upkeep, warm in winter and cool in summer, BISHOPRIC STUCCO over BISHOPRIC BASE not only wins friends but keeps them. And no wonder, for it yields itself to any form and endures from generation unto generation.

An interesting booklet "Bishopric For All Time and Clime," illustrated with photographs of beautiful houses built with Bishopric Stucco, plaster and sheathing units will be mailed you Free.

Bishopric is Sold by Dealers Everywhere

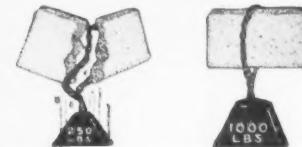
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BISHOPRIC STUCCO *over* BISHOPRIC BASE

"A Complete Wall Unit for all Time and Clime"

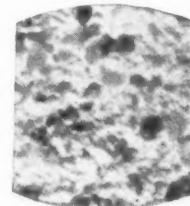
Stucco walls of greater strength

Ordinary Stucco Bishopric Stucco

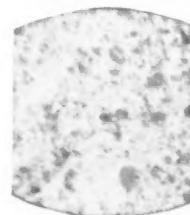


The enormous tensile strength of Bishopric Stucco is illustrated here. This is just one of the Bishopric guarantees of permanence on the wall.

Ordinary Stucco



The average stucco being marketed today is extremely porous and therefore NOT WATERPROOF. Notice the spongy porous formation in this enlargement and compare the density of Bishopric shown below.



Bishopric Stucco

Are Easier Payments Desirable in Building Field?

SALES of luxuries, such as automobiles, pianos, phonographs, furs, jewelry, radio and many others, have been enormously stimulated by deferred payment plans. It is a matter of record that over four million automobiles were sold during 1923 and 90 per cent of the trucks, as well as 75 per cent of the passenger cars, were sold on easy payments. This represents installment credits of at least \$1,500,000,000, handled by some 635 financing companies.

Radio is, perhaps, the latest entry in this field and a well known statistical bureau estimates that radio sales, during 1924, will reach a total of \$300,000,000—a large proportion of it sold on the installment plan. This portion is likely to increase during 1925.

Should More Credit Go to Necessities

Economists are now asking—would it not be sounder finance to have a larger share of installment credit for necessities rather than for luxuries? We are not overlooking the fact that the easy payment have been popular in the sale of a long list of commodities which might be classed as necessities, such as clothing, furniture, sewing machines, etc. The question is worth asking, however, would not the public receive greater benefit if a larger share of capital was made available for financing the sale of new buildings, renewals, additions and repairs on easy payments?

Likewise, in the matter of extensions, renewals and repairs—a great deal of painting, stuccoing, shingling and other work is delayed for lack of cash in hand which would be ordered if easy payments were available. The damage done to a building which is not repainted when it should be is irreparable—can never be replaced.

One finance company in Chicago is now lending money throughout Cook County for extensions, additions, alterations and repairs on the basis of 1 per cent a month for six months. All they require from the builder is a waiver of mechanics' liens, which they consider sufficient security when dealing with property owners. They advance the cash to the builder as fast as the work is completed upon receipt of the owner's note and the builder's waiver of lien.

Financing Plans Now Used

The Save the Surface Campaign, with headquarters at Philadelphia, has appointed a sub-committee to investigate and report on methods of financing easy payments on painting and decorating jobs. In their report on this subject, the committee points out that one finance company in the city of Philadelphia has been financing painting contracts for a period of several months past. The finance company advises that one painting contractor whose work they have financed attested to the fact that 95 per cent of his business had been secured because he was able to offer easy terms.

Another finance company has financed along similar lines electrical wiring contracts and reports that one electrical contractor whose capital was \$5,000 had discounted, within six months' time, \$100,000 worth of contracts.

The Save the Surface Committee recommends co-operation with Morris Plan Banks, building and loan associations and local financial institutions to finance painting contracts on easy terms of re-payment.

For the erection of new buildings, the builder has recourse to the usual methods of financing building loans—first, second and third mortgages. If the owner has not sufficient money after receipt of the first mortgage loan to pay the complete construction cost, the builder can take second and third mortgages which can usually be sold in the larger centers. To do this, however, the commissions on two or three loans is heavy and forms a burden which must be passed back to the purchaser in the form of a higher contract price.

Where the builder owns the land, he can sell on contract or have the purchaser assign title to his lot, raise a first mortgage loan on it, get a signed contract from the purchaser for the balance and "shave" the contract, but this exposes the purchaser to a possible loss of his title if he misses a payment, as he has no title whatever. Loan sharks are prone to take advantage of this. With a mortgage, there is, in most states, a 15 months' redemption period before foreclosure, which is much safer for the owner.

Mr. D. F. Laist, architectural adviser for the National Lumber Manufacturers' Association, outlined a plan of financing easy payments at a meeting of the Ohio Retail Lumber Dealers' Association. The plan has many merits and is, briefly, as follows:

A New Plan Suggested

The building material dealers, local builders and sub-contractors to take shares in a local loan company. This loan company to advance the amount necessary to "bridge the gap between the amount of the first mortgage loan and the amount necessary to complete the building." The money from the first mortgage loan is prorated among dealers who furnish material, builder and sub-contractors who install fittings and equipment. For the balance due them, each takes the owner's note. The loan company then discounts each of these notes for a moderate discount and pays the cash to dealers, builder and sub-contractors upon their endorsement of the owners' notes. This sounds like a commendable and feasible plan.

What Are Your Ideas?

We would like to hear from our subscribers on this question. We think it is worthy of discussion and one which may have an immediate bearing upon local building plans this spring. Write us a letter giving us your views.



Many People Would Like to Build but Lack Ready Money. Easy payment systems open new fields for the building contractor.

meeting of the Ohio Retail Lumber Dealers' Association. The plan has many merits and is, briefly, as follows:



Smooth as soft butter! The exceptional plasticity of BRIXMENT mortar is another reason why masons using it do faster, better, more economical work. It repels moisture and is thus less likely to freeze, crack or scale. Try it yourself and be convinced in actual practice.

BRIXMENT
is a standard, mason's cement of proven strength, endurance and economy. No lime. No slaking. Can be used immediately after mixing. Can be retempered. Will not fade mortar colors and requires less color to obtain desired effects. Sold through dealers. Further details on request. Louisville Cement Company, Incorporated, Louisville, Kentucky.

for Better Masonry
BRIXMENT

Westchester's House Beautiful Is Fine Type of Country Home

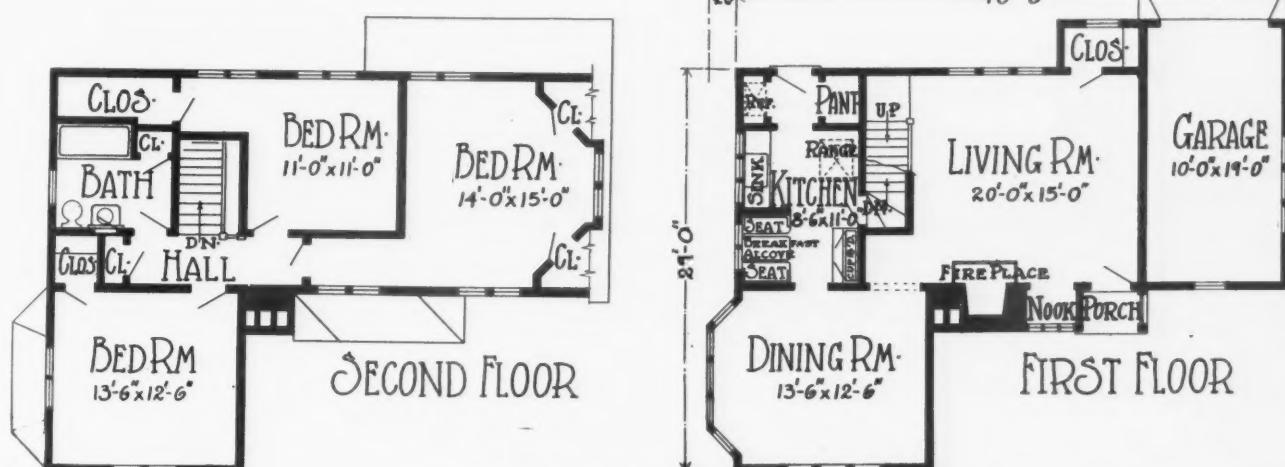
LEWIS BOWMAN, ARCHITECT

THE model demonstration house, erected by The Building and Realty News, of Westchester County, New York, bears the well deserved name of "Westchester's House Beautiful." The English style, selected by the architect, Mr. Lewis Bowman, of Mt. Vernon, N. Y., is a thoroughly appropriate type for the modern country home, of which this house is an example.

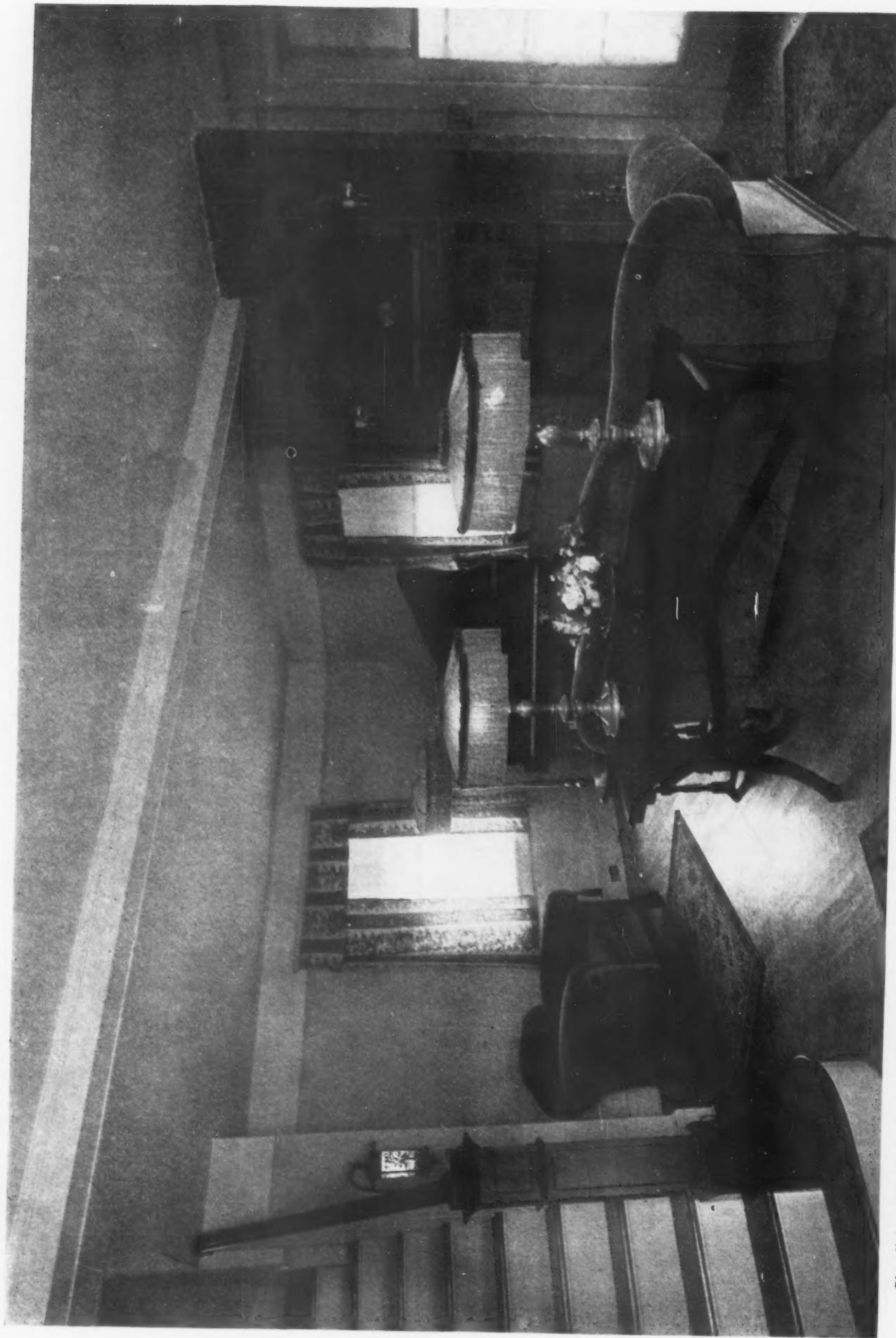
After selecting the type of house, the foremost thought was for the reduction of upkeep, with the result that the

probability of repair bills within ten years has been reduced to the minimum, an item of much consequence in the ultimate cost of home building.

A large number of well known firms co-operated in the erection, equipping, furnishing and decorating, and the building has been called the most complete modern home in New York City suburbs. It is located on Mamaroneck avenue, White Plains, and has attracted several thousand visitors since it was first opened for inspection.



The Building so Thoroughly Harmonizes with Its Surroundings that It Seems to Be a Part of Them. The floor plan shows the thought given to comfort and convenience in every detail from the large closets to the built-in garage.



Simplicity Seems to be the Characteristic Tone of the Interior of Westchester's House Beautiful and no Decoration Is More Satisfactory than Artistic Simplicity. This Living room, which might otherwise seem cold, is given just the right warmth by the bright warmth by the bright window drapes, the upholstered furniture and the well placed lamps and rugs, while the rough brick fireplace makes one look forward to the long winter evenings with a blazing wood fire.



The Kitchen, Above, of the Westchester House Beautiful, Is Carefully Planned to Offer All the Conveniences of Equipment and Arrangement While the Breakfast Nook Is Cheerfully Lighted by a Big Window. Just beyond is the dining room which is in complete harmony with the tone of the living room shown on the preceding page.

Unique State Capitol Design

Also a Fine Office Building, Training School, Exposition Building and State Capitol Included in this Month's Art Supplement

By **BERNARD L. JOHNSON,**

Editor, American Builder

SHOULD American capitol buildings all be cut after the same pattern? At least one architect—the late Bertram Grosvenor Goodhue—said, "No," and provided a noble alternative. This building, still under construction, has been described as one of America's architectural masterpieces.

An illustrated article in regard to this capitol was printed in AMERICAN BUILDER as long ago as June, 1922. However, this beautiful perspective has never before been illustrated in full page duotone lithography. We believe our readers will agree that the reproduction in this month's Art Duotone Supplement is well worth while.

Other notable buildings are included in this month's selection. We are glad to present a perspective of the Pacific Telephone and Telegraph Building, San Francisco, as a particularly fine example of the many modern office buildings being erected in Pacific Coast cities, where building has been extremely active.

Pacific Telephone and Telegraph Building, San Francisco, Cal.

The architects of this building—J. R. Miller, T. L. Pflueger and A. A. Cantin—made exhaustive surveys of the surroundings as well as mass and model studies of the building, in order to be sure that it fitted its environment and that there was no light or other interference from nearby structures.

The building occupies a site 160 by 147 feet, has equal faces at right angles on two intersecting streets and has an ell-shaped light court at the back. It is 500 feet high to the tip of the flagpole and contains 26 stories. The outer walls are faced with granite color terra cotta, except on the light court faces, which are of enamel brick, to match. The cost is estimated at four million dollars and the building is expected to be ready for occupancy in August of this year.

Training School for Teachers, New York City

The architects for the Board of Education of the City of New York—William H. Gompert and Mortimer D. Metcalf, associate—are to be congratulated upon this exceptionally fine training school design, as illustrated in this month's art duotone perspectives.

The building activity of the New York Board of Education is indicated by the fact that, in seven years, their building program has involved an expenditure of \$150,000,000 in order to provide proper educational facilities in this great metropolis.

The new Training School for Teachers will be located on West 135th Street between St. Nicholas Terrace and Convent Avenue. The building will contain seven stories and basement and its dimensions are to be 263 by 220 feet. The architecture is to be Cathedral Gothic; the construction to be of the skeleton type with curtain walls of brick and

trimmings of limestone.

Showers, toilets, dressing rooms, locker rooms and class rooms are provided for every department and the equipment and furnishings will be of the latest and most modern type. There will be several gymnasiums, laboratories, science rooms, rest rooms, teachers' rooms, libraries, offices, a manual training room, music rooms, cafeteria, teachers' lunch room, kitchen and other departments, also an auditorium which will seat 1,200 persons.

The Textile Exchange

Several large buildings have been built and projected in Chicago recently to serve the purpose of centralizing display and buying markets for various line of merchandise. The Furniture Mart—the world's largest building—has been so successful that land has been bought and plans drawn for an annex to be built in the near future. The Jewelers' Building is a projected building of this type, also the Produce Exchange, as also the Textile Exchange, illustrated in this month's Art Supplement.

The building is to cost \$5,000,000 and is to be located on Lake Shore Drive near the site of the Furniture Mart, between Erie and Ontario streets. It will be 240 feet square with a 120-foot club-hotel annex building.

The architect, Mr. Joseph C. Ludgin, has provided plans for a building which will be a credit to this fine neighborhood, with sweeping vertical lines which accentuate the height of the building and a gracefully designed tower at the corner. A lesser tower marks the dividing line between the main building and the annex.

The promoters, S. H. Shoninger and Hugo Du Brock, expect to have on display in this building representations of every important textile manufacturer on display. The plans call for a large roof garden with a complete stage on the roof of the club section, where fashion revues, exhibits, etc., can be given.

Nebraska State Capitol, Lincoln, Nebraska

Architects, as a class, are generous in their recognition of meritorious design even when it upsets a precedent. The late Bertram Grosvenor Goodhue has admittedly designed a masterpiece in the Nebraska State Capitol which won a series of architectural competitions in June, 1920.

The design of this capitol departs entirely from precedent in American state house construction, which, in turn, seems to have had its inspiration from the dome of St. Peter's or the Temple of Jupiter in Rome. The main feature of Mr. Goodhue's design, of course, is the majestic but beautiful tower rising to a height of 400 feet and surmounted by a heroic figure called "The Sower." This tower will be 80 feet square at the base and has a colored tile dome rising above an octagonal section of great effectiveness.

The main building is approximately 440 feet square, set on a terrace with a stairway of heroic proportions.

WHAT IS YOUR OPINION?

How do you like the Art Supplement and its presentation of the architecture of notable buildings? Do you find these plates beautiful—interesting—informing—or would you be more interesting in a different type of buildings? Your suggestions will be welcomed, as we want to present this department in the way which will be most inspiring and helpful to all who are interested in architecture. Simply address your letters to the Editor, American Builder, Chicago, and they will have our personal attention.

ART SUPPLEMENT *of* NOTABLE ARCHITECTURE



PLATE XXI

The PACIFIC TELEPHONE & TELEGRAPH BUILDING, San Francisco, Calif.; J. R. Miller & T. L. Pflueger and A. A. Cantin, Associated Architects. This Four Million Dollar Building, 26 stories high, will be completed in August, 1925.

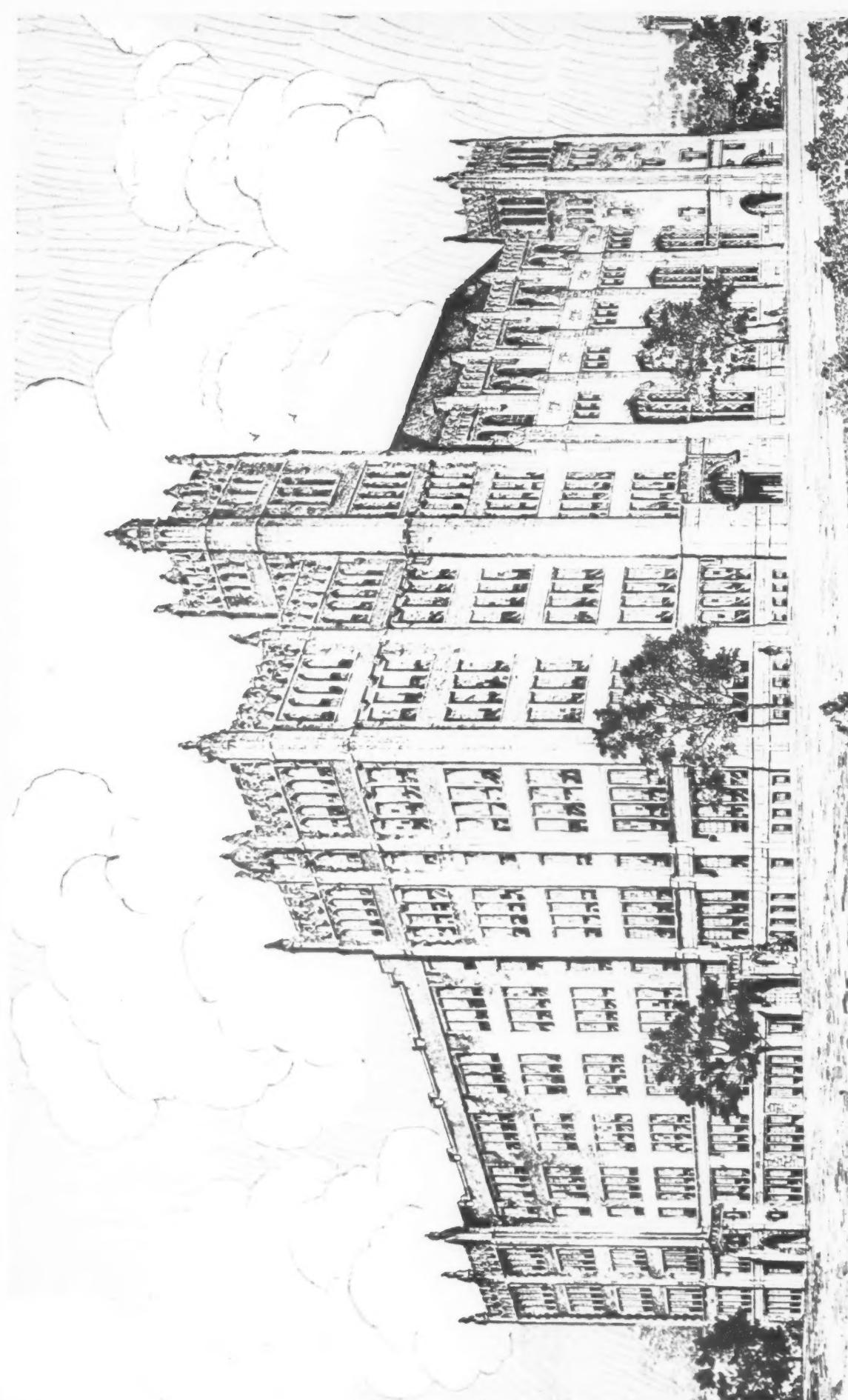


PLATE XXII
The New York TRAINING SCHOOL FOR TEACHERS, W. 135th St., New York City; Wm. H. Gompert, Architect. This immense 7-story building, 262 by 219 feet, is part of the \$150,000,000 school building program now being put through by the Board of Education of the City of New York, under Mr. Gompert's supervision.

AMERICAN BUILDER ART SUPPLEMENT of NOTABLE ARCHITECTURE, March, 1925



The TEXTILE EXCHANGE, Chicago, Joseph G. Ludgin, Architect; to be built on Lake Shore Drive at Erie Street. A design notable for its strong vertical lines and absence of cornice.

PLATE XXIII

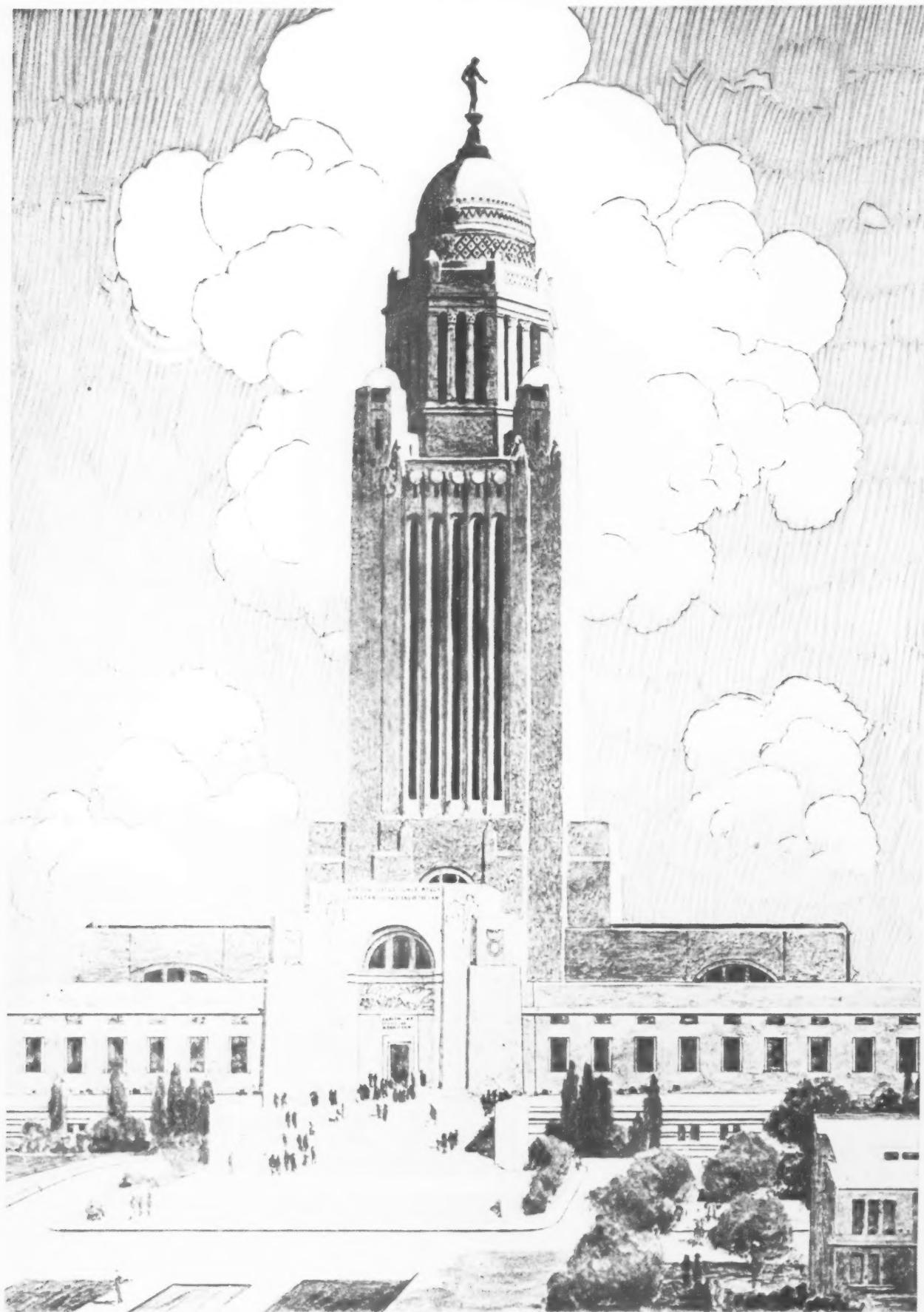


PLATE XXIV

The NEBRASKA STATE CAPITOL, Lincoln, Nebr., Bertram G. Goodhue, Architect, has occasioned world-wide comment and admiration since this prize winning design was selected and ground broken in April, 1922.

Built-in Equipment Used Throughout the Biltmore Apartments

By MAX SOMMERS

AMONG the most modern of newly constructed apartment buildings in Portland, Oregon, is the Biltmore Apartments at Twentieth and Glisan streets, which was completed last year; John H. Grant, architect.

The building is of reinforced concrete construction, with stucco exterior and Spanish cornices. It is built in a double "U" shape around 50 by 50-foot court. The front entrance,

which is of vestibule type, having a red slate roof, faces upon a small lawn set with trees and shrubs. The entrance is approached by a short flight of red brick steps, with tall lamps on each side. The fire escapes and the small steel balconies outside the central suites are painted white to correspond with the walls. The building consists of four stories and basement and is thoroughly fireproof.

There are 49 suites, of two, three and four rooms. The large suites are equipped with sun parlors, reached by French doors, this type of door also being used to give entrance to the balconies and between the living and dining rooms. Each suite has a bathroom with tiled floor and built-in bath tub, shower and drug cabinet.

The kitchens are small and compact and have every possible labor-saving device within easy reach. These include a sink with drain table attached, pair of kitchen steps, built-in kitchen cabinets, cupboards and refrigerator, and electric range. The kitchen opens on a dining room of the same size, flanked by glass-doored china closets.

The living room is equipped with a double concealed bed which pivots into a closet in which are two large wardrobes.



The Biltmore Apartments, Portland, Ore., John H. Grant, Architect, Are a Fine Example of the Possibilities of Space Saving Through Built-in Equipment. The floor plan shows the compact arrangement of the 49 two, three and four-room suites which are a model of light, ventilation and convenience.

Built to Rent at \$27.50 Per Month

Frank F. Woolling, Indianapolis Builder, Makes Big Success with His "Baby Grand Doubles" Which He Builds and Rents Partially Furnished



Frank F. Woolling, Indianapolis Builder, Whose "Baby Grand Doubles" Provide Young Couples with a Chance to Save Their Money Toward the Day When They can Build Their Own Home.

JUST when all the eligible young men were being frightened away from matrimony by the high cost of living and the young women were thinking they didn't want to keep house, because housekeeping meant either being cooped up in a room or two of a big apartment house where it was difficult to find your own entrance door, along comes Frank Woolling, an enthusiastic Indianapolis home-builder, and offers to young married couples, and old ones, the "baby grand double"—a double bungalow with all the conveniences of an apartment and all the sunlight and open air and privacy of a bungalow.

The baby grand double, as Mr. Woolling terms his delightful new type of house, is his own invention, but the rapidity with which the clever little houses are renting will no doubt lead to many imitations.

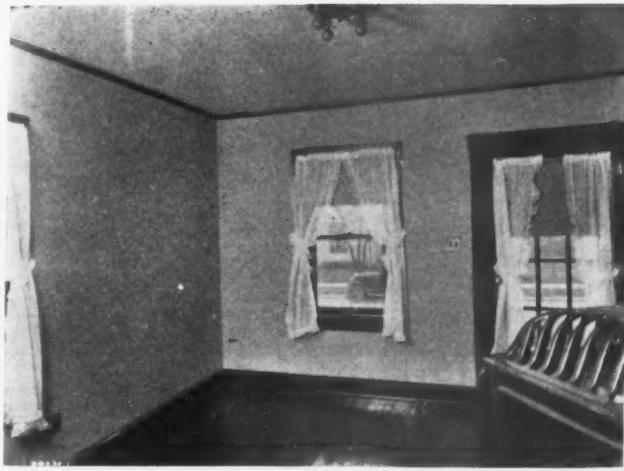
The best part of the baby grands is that they are to be rented, not sold; all the capital a young couple needs in order to start housekeeping in one of them is the price of a few pieces of furniture, and thanks to Mr. Woolling's foresight, one doesn't need much money or much furniture either.

The little "baby grands" rent for only the least bit more than the most ordinary three-room cottage. Each has a complete living room, a complete bed room and the most attractive combination dining room and kitchenette, toilet and "bathette" that any woman could desire. The exterior of the "baby grands" musn't be passed by without mention, for no one would pass one of them by without giving them an admiring glance, and a woman would be almost sure to exclaim, "What a darling place!"

For Mr. Woolling has taken special care to plan an artistic exterior for his "baby grands"—in keeping with the interior. Some of them have roofs of silvery gray tile, some show tiles of soft blues and greens and reds intermingled, some will be roofed in all green and some in dull red. All are dis-



Mr. Woolling Has Taken Special Care to Plan an Artistic Exterior for His "Baby Grands." Tile roofs in soft grays, blues, greens and reds set off the gray and ivory of the walls and trim. Each house has a private back yard with a garage and coal bin at the rear and plenty of room for a garden.



In the Living Rooms an Embossed Paper of Silver Gray, Walnut Stained Floors, French Door and Wide Windows with Shades, Fixtures and Curtains and the Efficient Heater Provided Make an Attractive Effect.

tinctive in their coloring. The outside walls are painted in soft grays and the trim is of ivory, making the whole most attractive. And here are a few of the additional exterior features and not found in the average rental property.

Each "baby grand" has a private back yard, fenced in from porch to garage with an ornamental iron fence, so that the baby or the dog has a place to play or the garden may grow undisturbed by wandering chickens. Each "baby grand" has its own garage. Built into one side of the garage is a coal bin, so that the coal wagon drives up the alley, empties the winter supply of coal into the bin and all the man of the house needs to do is to bring it in, a week's supply at a time, to the covered concrete coal reservoir at one corner of the large back porch.

The moment one steps into the living room he appreciates the good taste and excellent thought that went into the planning of these unusual houses. The best apartments are no more attractively



Each Kitchen Is Furnished with a Gas Range and a Built-In Cabinet Enameled to Match the Woodwork, in Ivory and a Block Pattern Linoleum in Blue and Ivory Covers the Floor.

FRANK F. WOOLLING
Real Estate
Continental Bank Building
Indianapolis

January 23, 1925.

MR. BERNARD L. JOHNSON,
Editor AMERICAN BUILDER,
1827 Prairie Ave., Chicago, Ill.

Dear Mr. Johnson: I am enclosing by separate package the only photographs I have had taken of the Baby Grand Development. I am not particularly proud of the pictures as the houses are not completed on the outside to any further degree at this time than the pictures show.

However, we have twenty-six occupied and have just laid down boards for the tenants to get in through the mud and they paid their rent from the day the inside of the houses were finished. There is just a prime coat of paint on the outside and the weather has been so cold we couldn't get in cement walks or steps up to the front porches, and the tenants occupying same are using the back door. You will have to imagine these houses painted up in beautiful shades of grays, ivories, white and greens, with the lawns graded and shrubbery banked around each little house. We are making full length cypress screens and doors for every opening and of course will place trellises and lattice work for rambler roses at some point on each house, and, believe me, my gardener will set out roses that will be blooming in sixty days after old stock is planted.

My list of people waiting to get into the apartments are young folks who are paying as high as \$65.00 a month rent and are really high-class and sincere people who are willing to furnish for themselves all the service they have been paying for in apartment houses and are desirous of building up a bank account in some good building and loan association with the difference they save in rent. These houses are renting for \$27.50 per month. It would really do you good, interested in your bigger way of promulgating the building of homes for the American public, to hear some of the people talk who daily call up my office. The rental success of this deal is just away beyond my fondest expectations.

Very truly yours,
FRANK F. WOOLLING.

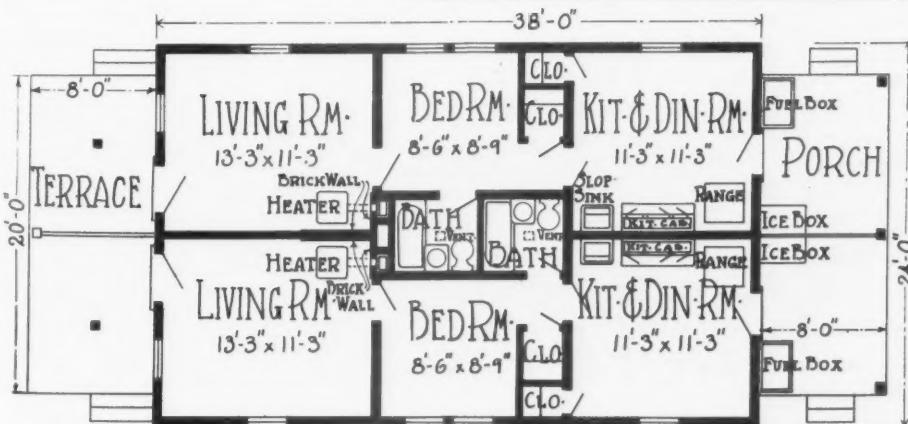
papered than the "baby grands."

In the living room and bedroom, an embossed paper of silver gray has been used, with walnut stained floors and woodwork. A wide side window supplements the French door and the window at the front in the living room, yet ample space has been left for all the necessary furniture.

There are ivory-toned shades at the windows, but the builder has not stopped with shades. He has included curtain fixtures and ruffled, tie-back marquisette curtains at every door and window from the front of the house to the kitchen. There is a big space between the front window and the side window for the over-stuffed davenport, which may be of the type that can be converted into an extra bed if one needs additional bedrooms. Besides the space for the davenport is an electrical outlet for the bridge lamp, and in one corner is an ideal spot for a gate-legged table and large chair, while in the opposite corner is the heating plant, a sort of "inside the house" furnace, with furnace heating capacity but a baseburner appetite for coal.

According to Mr. Woolling, these new heaters have been tested and found to go through an entire winter on three tons of coal, which is even more in their favor than their attractive appearance. Unlike the old baseburner, they throw the heat to the top of the room instead of scorching everything within three feet of them, and the upper walls of the "baby grand" have narrow openings near the ceiling so that this warm air is effectively distributed through the house.

In the bedroom, where space



Mr. Woolling Builds His "Baby Grand" Doubles in Two Sizes, 24 by 38 Feet, Arranged Like This and Renting for \$32.00 a Month, and 24 by 36 Feet, Renting for \$27.50 a Month. In the smaller plan the bathtubs are omitted and the bathroom space divided into four units, two toilets and two clothes closets.



These "Baby Grands" Were All Rented as Fast as They Reached the Point Where They Were Habitable, Without Waiting for the Completion of Outside Painting, Cement Walks, Grading and Other Details. There is now a waiting list of young people who are paying as high as \$65.00 a month in rent but are anxious to grasp this opportunity to start saving for a home of their own.

has been provided for a full size bed, dressers and chiffonier, there is a lighted wardrobe, and next to it, opening from the kitchen, is a modern toilet.

The kitchen is the most delightful room of all. There is a gas range furnished with the house; also a built-in cabinet enameled, to match the woodwork, in ivory. At the windows there are dainty curtains, on the floor there is block-patterned linoleum in blue and ivory.

Mr. Woolling has explained his purpose in building his "baby grand" doubles, in the following words:

"Our government put on an 'Own Your Home Campaign,' because home ownership develops better citizens, and the results were wonderful; but say, how are the young married folks just beginning life, going to save enough money to buy a home when it takes all they can make just to barely live? They have been reared in homes that have taken the best part of their parents' lives to create; and, naturally, they want to start in a like manner. Now, in the cities, what option have they? Either rent an unmodern, unsanitary house, absolutely opposite from what they have been used to, or rent a one-room, kitchenette and bath in a big apartment hotel at a price they can't afford to pay, and with their nose to the grind-stone trying to get by, it's mighty easy for either the husband or the wife to become dissatisfied, and through the many devious ways of that kind of living, end up in the divorce court.

"Now, if they could rent a small, clean, efficient house at a price within their income, they would be only too glad to keep the home fires burning, cut the grass, and scrub their walks and steps. And the very fact of their rendering these homely services would tend to hold their interest, build up their civic pride and give them a chance to save up their money to buy a home of their own; and the building of these small rentals is the creation of the 'Stepping Stones,' if you please, to the young folks dream home. If they start right, live thrifly and earnestly their dreams will come true and they will enjoy home ownership.

"All over this country there is every reason in the world for producing small, highly efficient houses to rent. Calling a small double house an apartment has a far greater appeal to the renting public than if you advertised a double house. It's hard to get attractive names for these developments. Now, if you AMERICAN BUILDER readers care to take these down, I'm going to slip you a few good names for small cellarless, bungalows, double, dolled-up inside like out modern apartments—Baby Grand Apartments—Jennie Wren Apartments—Peter Pan Apartments—and Pollyanna Apartments."



Recommend Subdivision Control

A STUDY of the control of subdivision development was recently undertaken by the Home Builders' and Subdividers Division of the National Association of Real Estate Boards, under the direction of Irenaeus Shuler, of Omaha.

Good control, within corporate limits, was found in seventeen cities, partial control in six cities and no control in one city. For control outside of corporate limits the figures were eleven good, three partial and twelve cities no control.

The report recommends a master plan for the whole of any metropolitan area, including a radius of three miles outside of corporate limits. Such a master plan is used in three of the cities at the present time and has been adopted and is in preparation for three others. The master plan provides for future street extensions, sewers, grades, transportation facilities and other improvements which should be co-ordinated with city development in territory which will probably become a part of the city.

No recommendation is made for the placing of such control except that it should be in the hands of the governing body best fitted to handle it by the existing local laws.



High School Building Course

THE first building construction course to be adopted as a regular four-year high school course has been established in the Roosevelt High School, Los Angeles. This course includes general instruction in selection, storing and use of brick, cement, sand, lime, rock, etc.; project work covering everyday use of concrete and brick; instructions in form work and scaffolding; construction methods devoted to the development of details, showing foundations, floors, walls, beams and plain columns made from concrete; instruction in individual and group project in various types of building construction and engineering work; test of sand, cement and brick; test and use of plaster for interiors; test of roof tile (clay and cement) for color and water tightness; instruction in fireplace and chimney design.



Building Congress Honors Boyd

THE first 1925 meeting of the Philadelphia Building Congress, January 16, took the form of a dinner in honor of D. Knickerbacker Boyd, president of the Congress. Mr. Boyd has announced his intention of retiring from office at the end of his present term, and this was considered an opportune time to publicly acknowledge his able work for the betterment of the building industry.

The dinner was attended by ninety-four members and friends. Many messages of tribute to Mr. Boyd were received from all parts of the country and the speakers referred to his continuous service, his visits to more than three-quarters of the chapters of the Institute, his collaboration with the Department of Commerce in mitigating seasonal unemployment, his work with the building material associations on standardization, basic specifications, pride of craft, apprenticeship training and innumerable activities with public educational institutions, contractors, and others.

Furnishing the Spanish Interior

Illustrations from "Dias Dorados," the Estate of Mrs. Thomas Ince,
Beverly Hills, California, Roy Seldon Price, Architect

By MARION BROWNFIELD

THE Latin influence on both architecture and home furnishings was never more apparent than at present. "Castles in Spain" are being built in such variety, right here in America, that every type of home from the studio apartment to the mansion may reveal a charming Spanish interior.

In every branch of Spanish decorative arts, there are "examples which seem to recall Italy in design, Flanders in perfection of workmanship, and an ever recurring Oriental note, which is reminiscent of the Moor." In metal, leather and iron, which were all important details of Spanish furniture, both the Flemish and the Moorish contributed ideas. This explains why Jacobean furniture, considered an English style, harmonizes with Spanish furniture. William and Mary brought it from the Netherlands, and thus the two styles have a common Dutch heritage.

Distinctly different were the influences of the New World, on Spanish furniture. These tended to two different effects. One style was the simplified Spanish made necessary by the pioneering of the Mission padres, and the other while still monastic in design was strongly influenced by the native Indians. This type of Spanish furniture has appropriately been called the

"pueblo style." It combines primitive vigor with Indian motifs in design. Many of the Spanish colonists saw the decorative possibilities in Aztec motifs with their bold simplicity portraying symbolically all the mysticism of nature. The Indian pottery, baskets and rugs are echoes of the desert where the sun unites earth and sky. And the new Spanish settlers carved beamed ceiling, paneled walls and doors, friezes and borders, as well as furniture in Indian style, with now and then a Spanish heraldic device intermingled!

The background of course was simple stucco walls, with gracefully arched opening descended from the Moors to the Mission days. Tiled floors reflect both Moorish and Indian art. Hand wrought iron was used for both the quaint hardware—such as door hinges and locks, and very handsome lighting fixtures. Candle sconces notably relieved the austerity of natural toned plaster walls. However, the tie with old Spain still being strong, luxurious hangings were imported by the wealthy. This note of color is probably the most fascinating thing in a Spanish room.

Yet Spanish furniture has decided beauty in itself. Besides tables, chairs, chests, stools, and bedsteads, there were a number of original pieces—among them

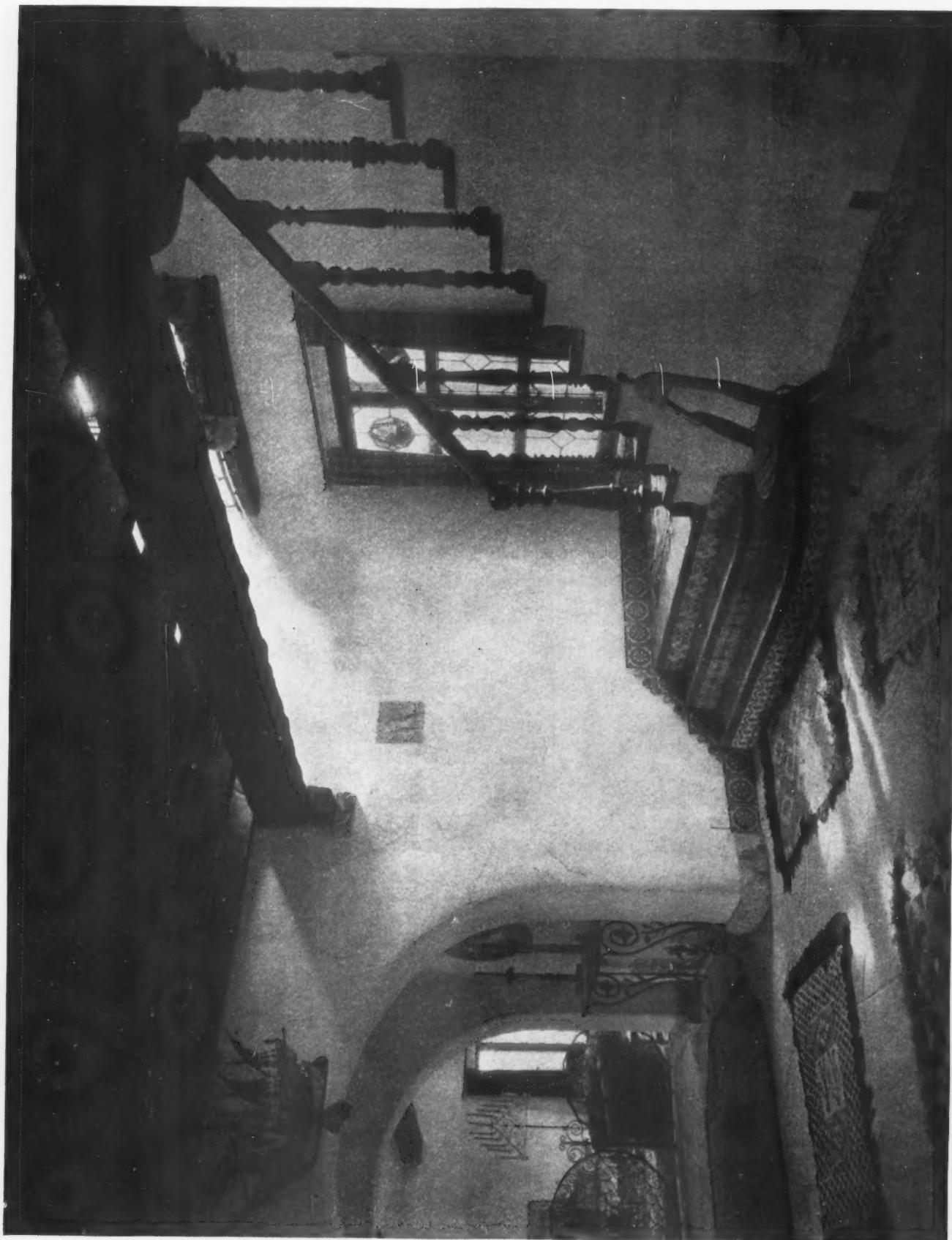


With the Vogue of Spanish Homes Comes the Need for Knowledge Concerning their Proper Decoration. This interior is from the home of the late Thomas Ince, Beverly Hills, California. Roy Seldon Price, Architect.

the "arcon" or curved top sea chest and the famous vargueno.

The vargueno is a small rectangular cabinet with a hinge, that lets down the lid; it was gradually developed into an elaborate and useful piece of furniture. A sliding drawer beneath is credited to the Moors, as

well as certain open work metal plaques seen in sixteenth century models. Later the vargueno was placed upon a stand, which had a characteristic arrangement of spirally turned columns frequently connected lengthwise by arcades. Carved shell work was a decoration symbolic of St. James, the patron saint.



The Heavy, Beamed Ceiling, the Quaint Stairway with Its Variety of Balusters, the Tile Floor and the Plaster Walls Form a Fitting Background for Wrought Iron Work So Much in Evidence in the Interior of Dias Dorados, the Home of Mrs. Thomas Inc.

Most of the typical Spanish furniture was walnut, which fits harmoniously into any Latin interior. Sometimes walnut was polychromed or gilded, but chiefly as a decoration. Metal mountings were exceedingly popular and both gilt and iron were used over red velvet. Chairs were upholstered with both velvets and leather. Tooled leather, indeed, is notable on seats, stools and screens. The Moors sat on cushions, so chairs developed slowly, and the canopied bench was one of the first styles. Later both high and low backed arm chairs were upholstered.

A tall hanging cupboard or armoire was another distinctive Spanish piece, while a small cabinet or drawers designed to stand on a table is the "papelera." What a fascinating adornment for a modern writing table! The refectory table, being of monastic origin was equally at home in the New World. Spanish style tables usually have scroll or carved trestle legs connected by wrought iron stretchers. The legs flare at the base, and the top is frequently a thick walnut plank.

Color is strong in Spanish fabrics. Because it is needed to give warmth to stucco walls and tile floors, it can be used quite daringly in both hangings and

upholstery. A charming scheme, indeed, is the rug or "throw" hung solely for its pictorial effect.

Many of the Spanish weaves for upholstering have been cleverly simulated by modern manufacturers. Among these are tapestry, velvet, brocatelle, brocade and antique satin. For tall chairs, "flame point" tapestry with its lure of color is successful when the figure is used "up and down." Verdure tapestry, figured and Genoese velvets are harmonious for upholstery.

For draperies, the rich velvets and satins are always good, and a scalloped valance gives the Moorish effect. Thus sunfast crimson satin, for example, makes attractive overdrapes when edged with gilt braid. Glass curtains being the modern substitute for blinds, Spanish lace in rich ecru or theatrical gauze has the requisite elegance. Cottons colorfully striped and printed are also being used. The Oriental note sounded by striped curtains, which also carry out Indian motifs, if desired, are seen in one of the photos. Imported linens in "Goya" designs are another new idea. This fabric suggests both the famous painter and the Spanish shawls because of the floral scrolls. Jardiniere is another floral linen that is artistic for drapes. Wrought iron curtain rods of course emphasize the period.



The Beautiful Wrought Iron Screen Used Here Is an Excellent Example of the Delightful Effects Possible Through the Intelligent Use of this Material in Decoration. With it are combined, often in the Spanish interior, wrought iron candle sticks and bracket lights.



**LANDSCAPE ARCHITECTURE
AND
THE HOME
A DEPARTMENT
CONDUCTED BY**

F.A.CUSHING SMITH
LANDSCAPE ARCHITECT
CHICAGO



Selecting the Home-Building Site

This Is NUMBER ONE of a Series of Articles

By F. A. CUSHING SMITH, Landscape Architect

IN the thrill of planning our first home, we too often forget that this home, which may be the only one which we will build, is to have a permanent setting, a place in the sun, which is different from that of any of its neighbors. Too many of us plan the house first, long before we have decided on the lot upon which it is to be placed. We do not always realize that the direction in which the lot faces, the grade of the lot, the trees and the rock outcrops, the hills and valleys, are all factors which are intimately connected with the kind of a home which we are to build.

Let us imagine that we are about to select such a lot, before we have designed our home. We will choose a general location which would be convenient to our place of business. The location should also be in a section of the community where the prevailing winds do not send the smoke, odors, or gases from nearby manufacturing plants into our living-room or bedroom windows. In some of the smaller communities this smoke factor may be serious; and we would like to avoid being too near the railroad with its noise and soot. Manufacturing plants always reduce the value of a piece of property for residence purposes.

In the vicinity of large cities the matter of transportation to and from our work is of concern to the home owner. When we are so situated that we can have both an automobile and a home, then the country or suburban sections have many advantages. Here we can usually find good educational advantages for our family, well designed churches, a library and other community features which will give to our children surroundings which they can happily remember, and perchance come back to when their schooling is over.

We expect, and that rightly, a good clear water supply, a well-managed and carefully designed sewerage disposal and refuse disposal system.

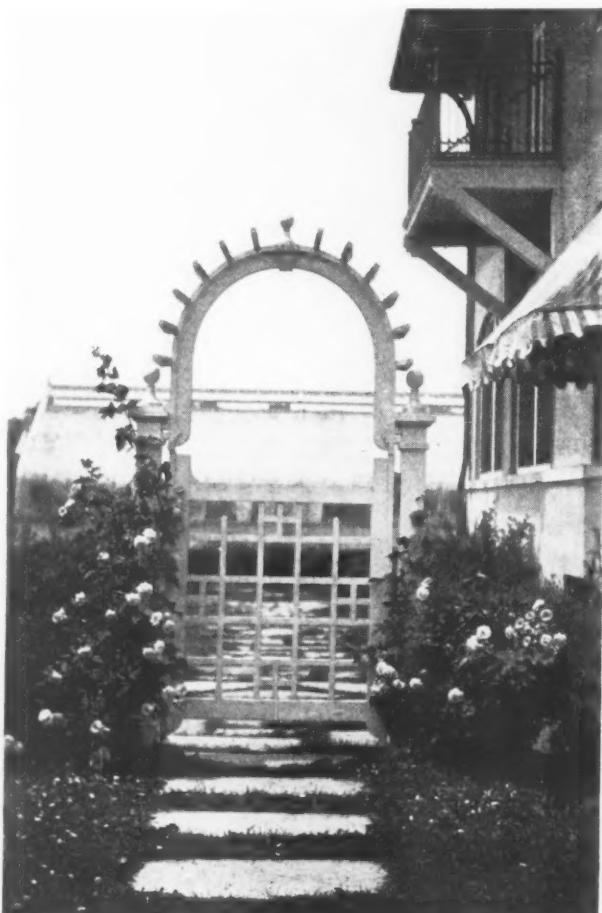
We need well-lighted and adequately policed streets, with paving smooth and safe for driving. We may have parks, playgrounds or perhaps a fine bathing beach if near a lake or river.

We have now disposed of the question of where we would like to live, and our next thought is of the lot upon which we will build this dream-home. Where the country is flat, little can be done except in the style and design of the house, to relieve it of monotony. We can by grading, if it be properly directed by real imagination, re-create a new scene about the house.

We can look for trees upon such a lot, trees whose welcome shade and spreading limbs give shelter and a feeling of permanency to the finally completed home. We may be fortunate enough to have several different varieties of trees on our lot, and their preservation should be no small matter of concern to you, their owner. Too many trees, however much we may admire them, only make our home dark and damp, and must be sacrificed in the beginning, before we grow too attached to them.

Some communities take great pride in the trees with which they have been blessed, and take great pains to preserve them. Many of these old forest monarchs have an interesting history. There is an old elm in Cambridge underneath whose spreading branches General Washington took command of his troops. There are elms, the branches of which have been bent in youth at right angle to their trunk, to mark the line of the Indian trails, as they wound their way toward the north lakes.

Our lot should not be too low in grade, so that there is a tendency of the surface drainage, the rains and melting snow of spring, to flow into our cellar, or to make of our entire lot a wet, unhealthy place in which to live. The



This Terraced Entrance to the Flower Garden and Greenhouse Is Most Invitingly Framed with Rose Bushes Which Adds to the Attractiveness of the Home.

low lot may also be difficult to build upon, due to the average shallow depth of the sanitary sewers in the street. It seems to the writer to be wise in the purchase of the lot, to be sure that the first floor grade of your home can be set at such a height that the house need not be put upon stilts, or on high foundations or terraces, to keep the basement level above the sewer grade.

Most of us know that low wet land is apt to be foggy and unhealthful. Pockets of this kind also encourage damage caused by early and late frosts, which may take all of our fruits or late maturing vegetables, or our choice and cherished late asters. In the spring late frosts also ruin many an otherwise promising fruit crop by killing the blossoms. A friend of mine, who lives in the state of Washington, now noted for its fine apples, was asked why he seldom had frost difficulties in the spring when all of his neighbors were losing large sums in frozen blossoms. "That," said he, "is because as an early comer I chose my home-site, and my orchard site with care, on a high level plateau, where the sun beats warmly down even in early spring."



A Natural Feature of Great Beauty May Be a Spring Fed Brook or Pond. Here mirrored rhododendrons and willows frame the charming view of this country home.

day's joys. A more inviting scene, nor one more restful, can scarce be imagined.

As long as there is some motion to the water, even though the stream be artificially fed during a part of the day, little danger need be expected from mosquitoes, those pests of the summer evenings. Fish life would keep down the larvae, and provide much happiness to the small boys of the neighborhood. The reflection in the depths of the lake of the flowering shrubs along the banks, of the sunset glow, and of the warm light in the windows of the home you love, is a sight which pulls the heart-strings.

In digging the excavation for the basement of his home, a friend of mine found two large boulders of granite of brilliant hues, which his contractor advised be buried to get them out of the way. Both these rocks were saved. One was made the center,—and a popular center it was,—for a bird-garden and wild retreat, where in its hollowed top the old rock held cool water for the feathered visitors through the hot summer days.

The other boulder, even larger than its fellow was dragged within the shade of an old hemlock. Its rather irregular top was cut into a rustic seat, from the enveloping arms of which on many a summer evening weird tales were told around a crackling camp-fire at its base. Thus unexpected beauties and joys may be found on even a dismal and ordinary appearing site, if we have imagination and the courage to apply it to our lot.

Think in the beginning of the views of your new home which to you seem the most inviting, and frame them with attractive planting. Screen the views which are unattractive, especially those sections which are devoted to the service portion, the drying yard and other unsightly portions of the lot. These screens may be walls, lattice, or planting as has been suggested. Remember that in our northern climate many months are spent within the cozy walls of our home, and thus the best of the views from the windows can be framed, emphasized, and made restful and inviting. Evergreens and architectural features aid in making less bleak the winter's scenery.

Adapt your new home to the site which you have chosen. Adapt the arrangement of the rooms, their size and contents, to both the lot exposures and to the needs of your family. Adapt the materials of construction to those in common use in the community, preferably as permanent as possible. Do not select a freakish style of architecture just to be different from your neighbor. Above all adapt your home and its contents to your pocketbook, so that its final purchase, interest on your investment, taxes, and other fixed and seemingly inescapable charges will not take all of the pleasure out of the ownership of your dream-house.



A Home Built Upon a Terrace, at Some Height Above the Street, Gains Prominence and at the Same Time Improved Views from Its Windows.

If your lot is high, with a knoll seeming the best place for the house, let the building seem to build up out of the ridge. Do not let it seem to be in danger of sudden displacement during the first wind-storm, perching on the top like a brown derby on a tiny head. Rather, if the hill be high and the house be large let the style be kept low and rambling, with rooms on different levels on the first floor, if necessary, and with terraces of sufficient width to hold the house where it belongs.

A lot with steep slopes to the house and to the garage from the street, is one which may necessitate much grading down to make the ascent an easy and a safe one for either the motor car or for the visitor on foot. This requires no little ingenuity and cleverness in design, but may be the means of giving you an individual final result with the garage placed at a lower level than the first floor grade of the house. The entrance walk may lead upward in long ramps, rather than short flights of steps, until the house terrace or porch is reached.

Another natural feature of great beauty which is an attraction sought by the nature-lover, is a spring-fed brook or a wide lagoon, or a low piece of land with a valley so placed on the lot that it might serve when dammed at the lower end, as a site of a lake where summer swimming can be enjoyed, and where skating in winter gives zest to the

Egyptian Theatre, Portland, Oregon, Built in 90 Days

Efficiency in Planning Causes Construction Work to Speed

Designed by EDWARD A. MILLER—Contributed by NAOMI SWETT

A NOVELTY motion picture playhouse seating 1,200 people, and in which are incorporated many of the most modern audience comfort and screening appliances, built completely in ninety days, was the construction speed record attained in the building of Graeper's Egyptian Theater in Portland, Ore. The feat is all the more remarkable when it is considered that the building of five modern stores on the property, which is 126 by 145, was part of the job, of which the total cost was \$82,000.

Just fourscore days and ten after starting work the Carlson Construction Company, contractors, had the job ready for the decorators. Careful planning, strict adherence to schedule and close co-operation with the architect, Edward A. Miller, made this achievement possible, with a construction crew, which, even at the peak of operations, never numbered more than forty men.

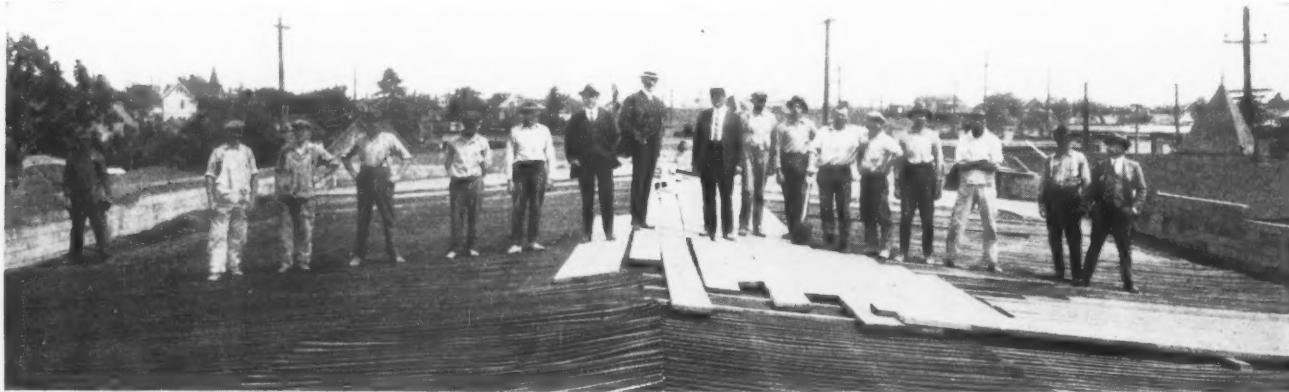
An interesting feature of the building operations was that the entire balcony of the theater, columns and all structural portions, were completed in a single day. The workers began operations at six o'clock in the morning, and by nine o'clock that night, just fifteen hours later, the cement finishers walked off the job with their work complete. The outside roof, even to the steel trusses, was finished with equal speed, the structural men working just ahead of the cement gang. The steel men began work on the roof of the building on a Friday morning and by 1:30 a.m. the next day they had completed their task, then the concrete crew following up pouring and finishing, with the result that the roof was completely finished by the time the noon whistle blew that day. In a day and a half 8,800 square feet of concrete had been spread on the roof,



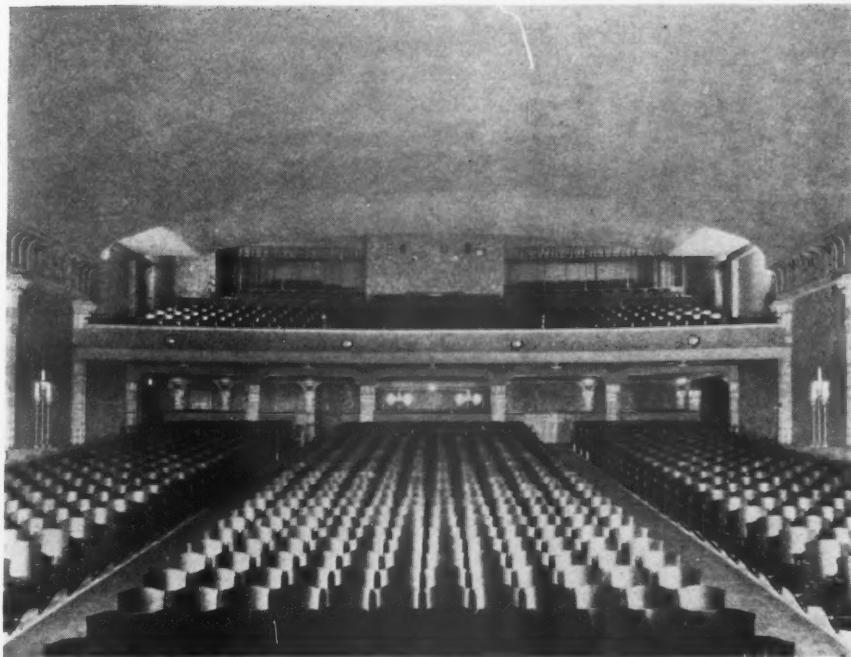
Graeper's Egyptian Theater Shows a Splendid Harmony of Beauty and Utility and Incorporates a Number of Unusual Features. Its speed of construction is a fine example of what can be accomplished by thorough planning of every operation.

including the placing of the roof slab steel. Other portions of the building were completed with equal speed.

Under the ordinary method of roof construction it would have taken between three and four weeks to do this piece of work, where wooden forms would have been hung from the trusses with the necessary forms for concrete purlins, slabs, etc. This procedure was avoided by using steel joists self-centering 2½-inch slab and pouring direct on the self-centering, which enabled the builders to lessen the



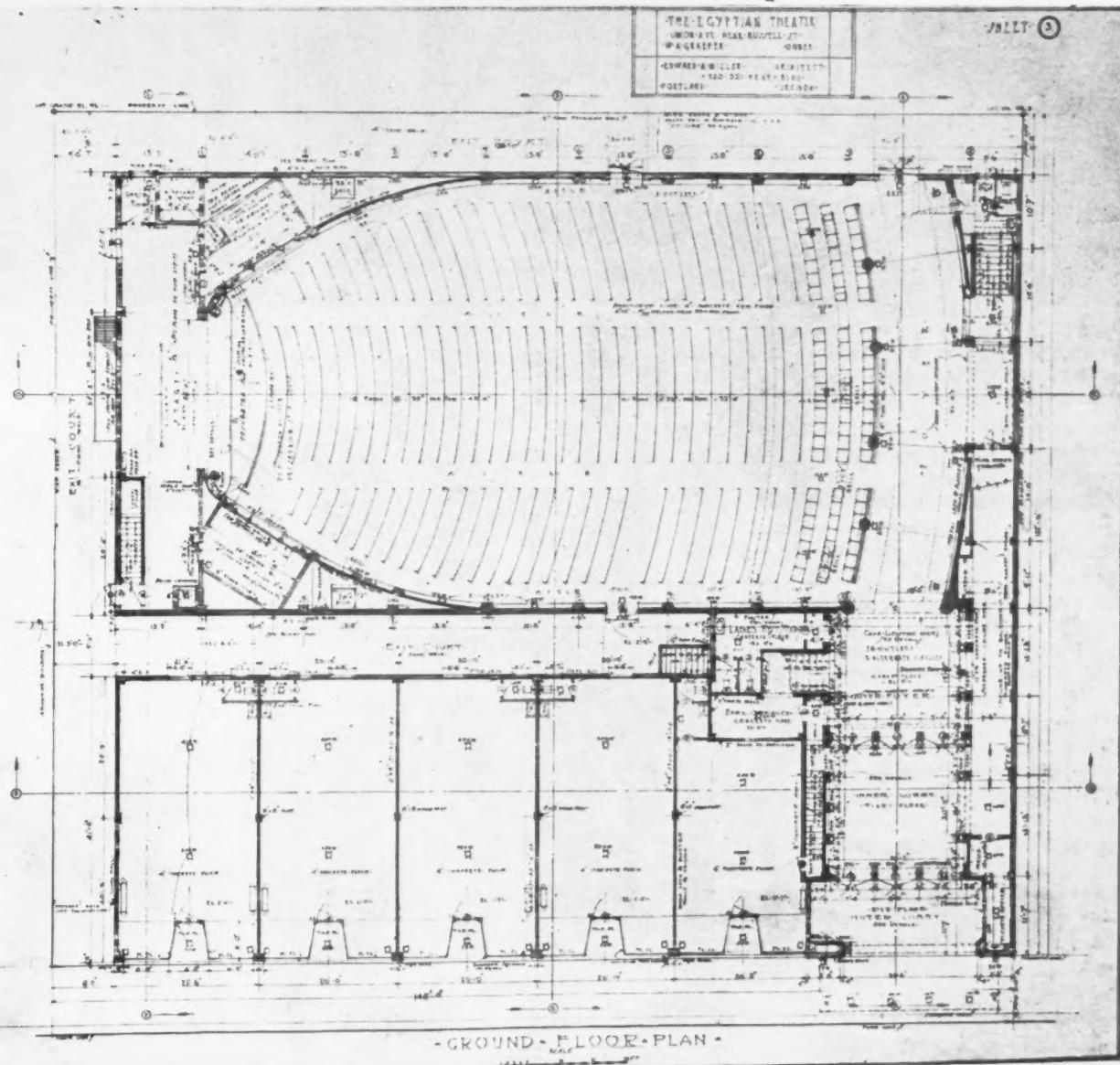
Steel Men Started Work on the Roof of the Egyptian Theatre on Friday Morning at 10:30 A. M. and the Next Day Had Completed Their Work. They were followed by the concrete crew and by noon Saturday, in a day and a half of work, the entire roof, including 8,800 square feet of concrete, was finished.



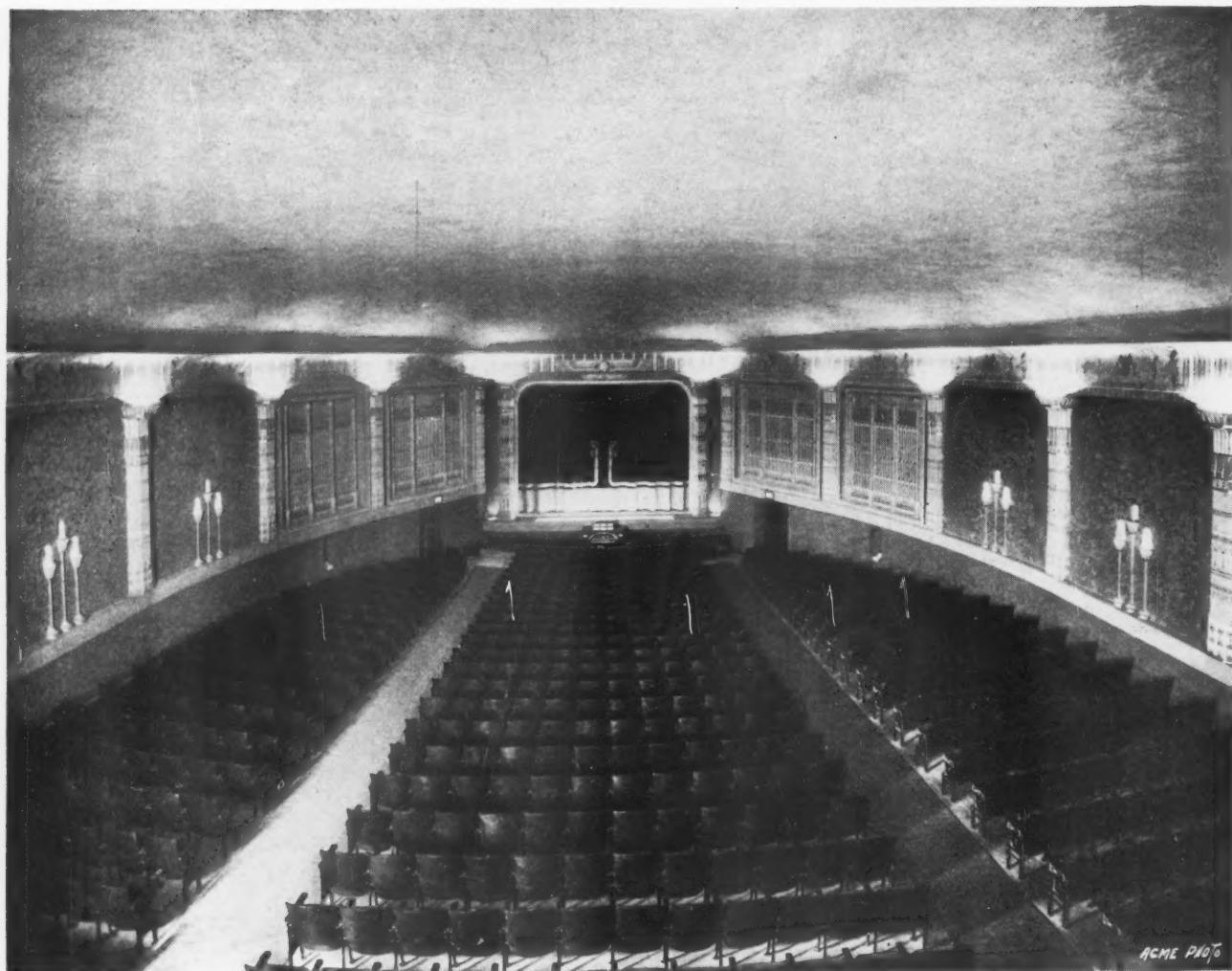
dead load on the trusses. The result was that the trusses, columns and footings were lightened, and the suspended ceiling carried direct from the roof slab with heavy wire looped through a self-centering supporting the light steel channels of the dome ceiling, leaving the work ready for the lathing crew to begin operations on the following Monday morning.

From the standpoint of beauty and practical advantages, Mr. Miller, the architect, decided upon the style of building that the ancient Egyptians made famous. The result has been a splendid harmony of art and utility. Graeper's Egyptian Theater is a piece of maximum enjoyment which provides a perfect seating arrangement, perfect acoustics, thermostatic ventilation control and a system of illumination that affords the best screening results with full observation for the patrons.

As the theater is built entirely of



Above: Another Interesting Example of Rapid Construction Is the Balcony of the Egyptian Theatre, All Structural Portions of Which Were Completed in a Single Day. The workers began operations at six in the morning and were through at nine in the evening. Below: The floor plan shows the elongated horseshoe shape of the auditorium which obviates all square pockets.

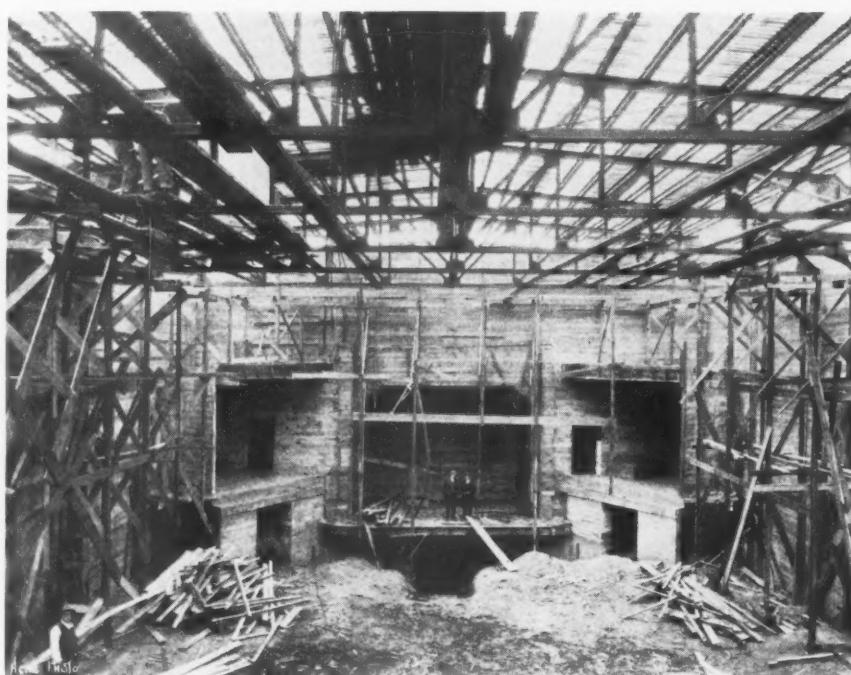


The Auditorium of the Egyptian Theatre Has a Ceiling Shaped Like an Inverted Eggshell Which Affords the Most Satisfactory Acoustics. The lighting is such that a person may see about the house during the performance and yet be screened from the discomfort of any direct glare.

reinforced concrete with an all-steel and concrete roof, it is completely fire-proof. The auditorium has the shape of an elongated horseshoe. Square pockets have thereby been obviated and all surplus space has been taken up by the two organ chambers and the ventilation shafts. The area of the organ chambers is 15 by 10, and they are 12 feet high. Access to the sound chambers is gained through metal doors in the right and left wings of the stage. The organ is a Wurlitzer Hope-Jones Unit orchestra of the most modern design, installed at a cost of \$18,000.

The ceiling of the auditorium is shaped like the inverted half of an eggshell and therefore contains no angles, sides, tops or ends, thus affording the most satisfactory acoustics. The walls, floors and ceiling of this theater are of solid concrete plastered smooth. Five exits lead to an alley and on the main auditorium there is a seating capacity of 866 persons.

The balcony is approachable by an easy incline from the foyer, which is 6 feet 6 inches in width. There is additional access to the balcony by two

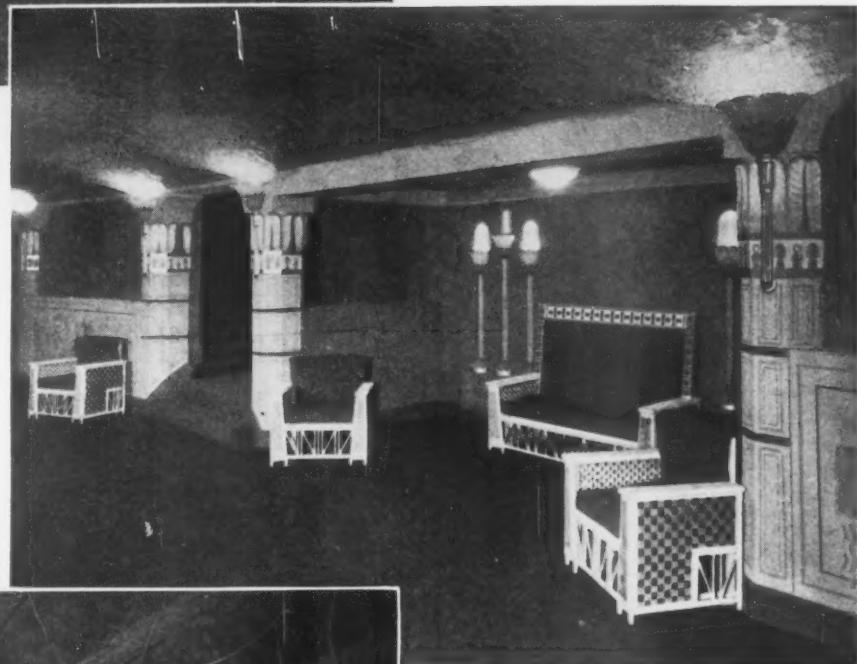


Here Is a View of the Stage in the Course of Construction. The rapid construction work was accomplished with a crew that never numbered more than forty men, even at the peak of operations.



The Spacious Lobby of the Egyptian Theatre Is Decorated in Blue, Gold and Autumn Colors Which Blend in a Most Pleasing Harmony.

6-foot staircases. An easy angle, well back from the screen, gives ideal vision from the balcony seatings. This part of the house, which is a decided innovation in concrete construction is supported by four big reinforced concrete cantilever beams. There is an overhang of 18 feet which obviates the necessity of supporting columns beneath, and the following obstruction to the view of the people seated back of them. There is a seating accommodation of 334 persons in the balcony.



The Ancient Egyptian Style Was Adopted as a Model and the Result Is Entirely Satisfactory, Both from the Standpoint of Beauty and Practical Advantages.



Another Detail of Construction Showing How the Balcony Is Supported by Reinforced Concrete Cantilever Beams, with an Overhang of 18 Feet Which Obviates the Necessity of Supporting Columns Beneath.

The upper section of this theater has two interesting features. These are the "cry baby" room and the men's plate glass smoking compartment. The "cry" room, which is 24 by 10 feet and shielded by sound-proof glass, makes it possible for an embarrassed mother to still enjoy the show even though her offspring has a fit of the squalls. The plate-glass smoking compartment enables men to watch the show as they puff their cigars, cigarettes or pipes, and the other patrons to benefit by the "no smoking" regulations. These rooms are on each side of the lamp room.

The lamp room is directly in the center of the rear balcony and is 11 by 17. A motor generator set is housed in a small vault room directly below. The lamp and subsidiary chambers are

of fireproof construction and thermostatic control makes it possible for a complete change of 96,000 cubic feet of fresh air every three minutes. Oil fuel is used for heating purposes, giving a comfortable degree of warmth at all times. Heating and ventilation was designed by Jay H. Keller, heating engineer, while the heating and plumbing fixtures were installed by Fox & Co., both firms of Portland.

The theater is approached by a spacious lobby. Plate glass doors divide it from the outer foyer, which in turn is separated from the foyer proper by a set of doors of identical material. The main foyer is 65 feet long and 15 feet wide. Near the balcony is a place for parking baby car-

riages, a check room and the ladies' rest rooms, while at the far end are the men's toilets. On either side of the orchestra pit are lavatory facilities for boys and girls, and adjacent to these points, in the side aisles, drinking fountains. On a mezzanine floor on the balcony level are the ladies' rest rooms proper and a reception room. The manager's office, which is situated in the front part of the building, affords a complete view of the lobby at all times, and connects with all parts of the house. The seats and stage curtain, as well as the decorations were installed by Shearer & Co., of Seattle, Wash.

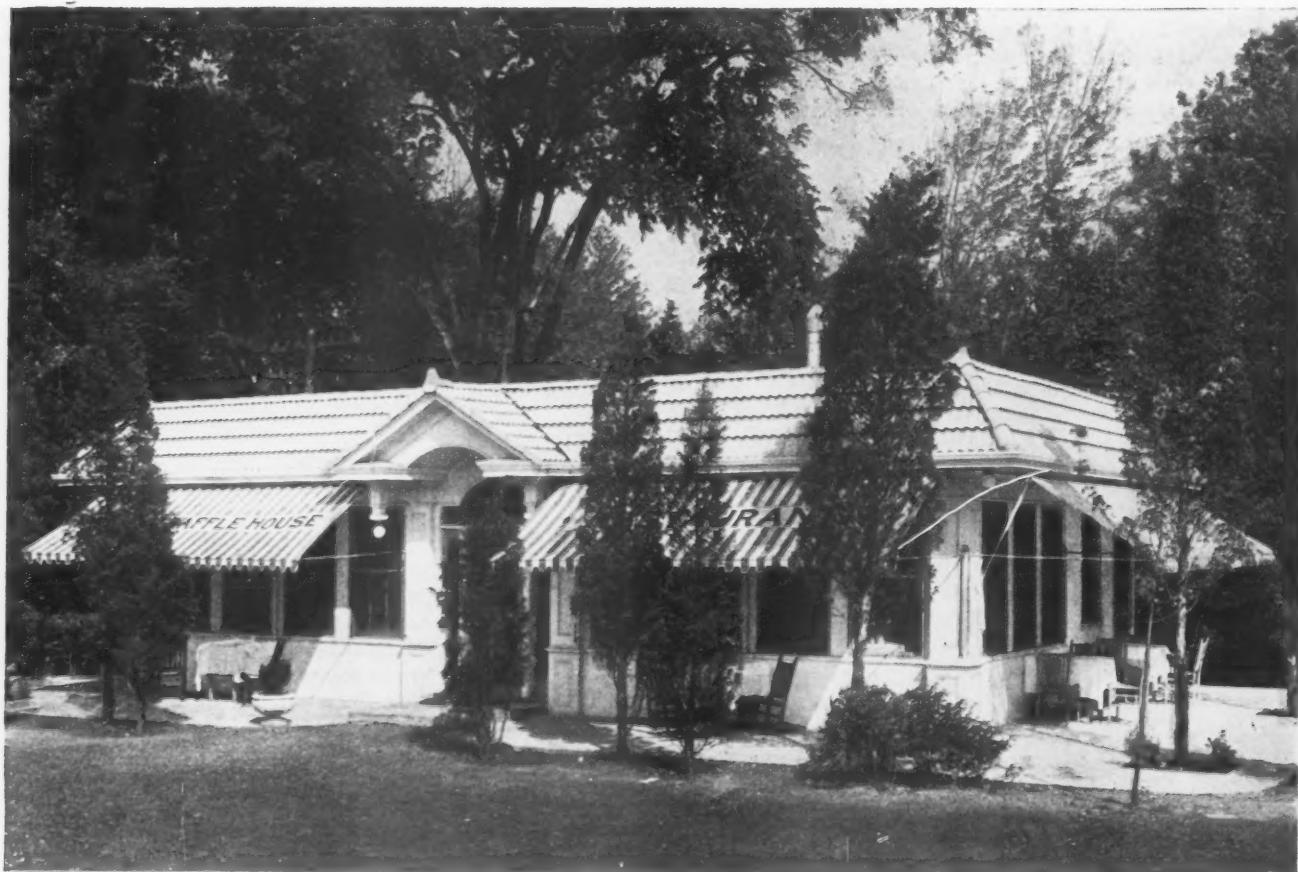
Of particular interest is the system of illumination in the Egyptian Theatre. The lighting arrangement is such that a person may see about the house easily during a performance and at the same time not be discomfited by having the screening of the picture injured in the slightest degree. None of the usual electric lighting fixtures are in view, as illumination is afforded mostly by the indirect method, which imparts a soft glow very pleasing with the blue, and autumn-colored bronze ornamentations. The rough plaster finish walls have the appearance of golden tapestry. NePage McKenny Company performed all wiring, while the



Another View of the Lobby of the Egyptian Theatre Profusely Decorated with Flowers to Welcome the Earliest Visitors to This Beautiful Place of Entertainment.

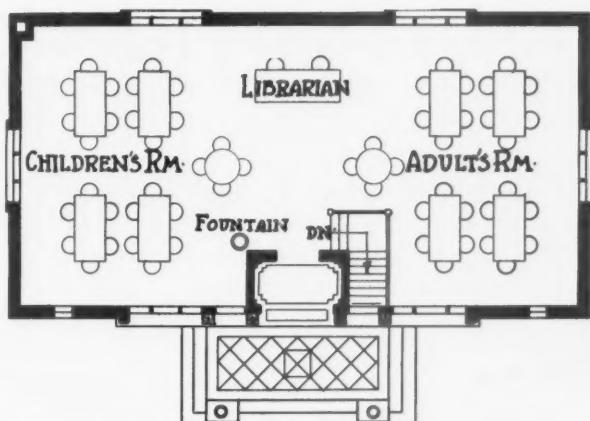
David L. Hoggan Company were responsible for the exceptionally fine plaster work in this very interesting motion picture theatre.

A Place of Business Which Fits Its Setting

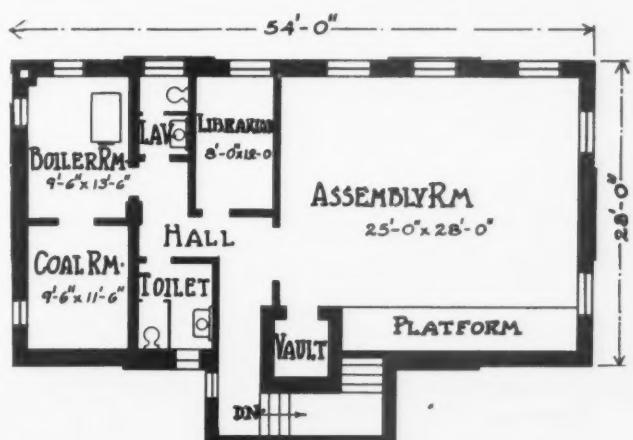


Beauty Is an Asset in Business Buildings as Well as in Homes. Here is an example of what may be done to make a restaurant, or for that matter any place of business in parks or with a natural setting of trees, a pleasing part of its surroundings. Awnings, shrubbery, and well placed trees invite the passerby to stop and become a patron.

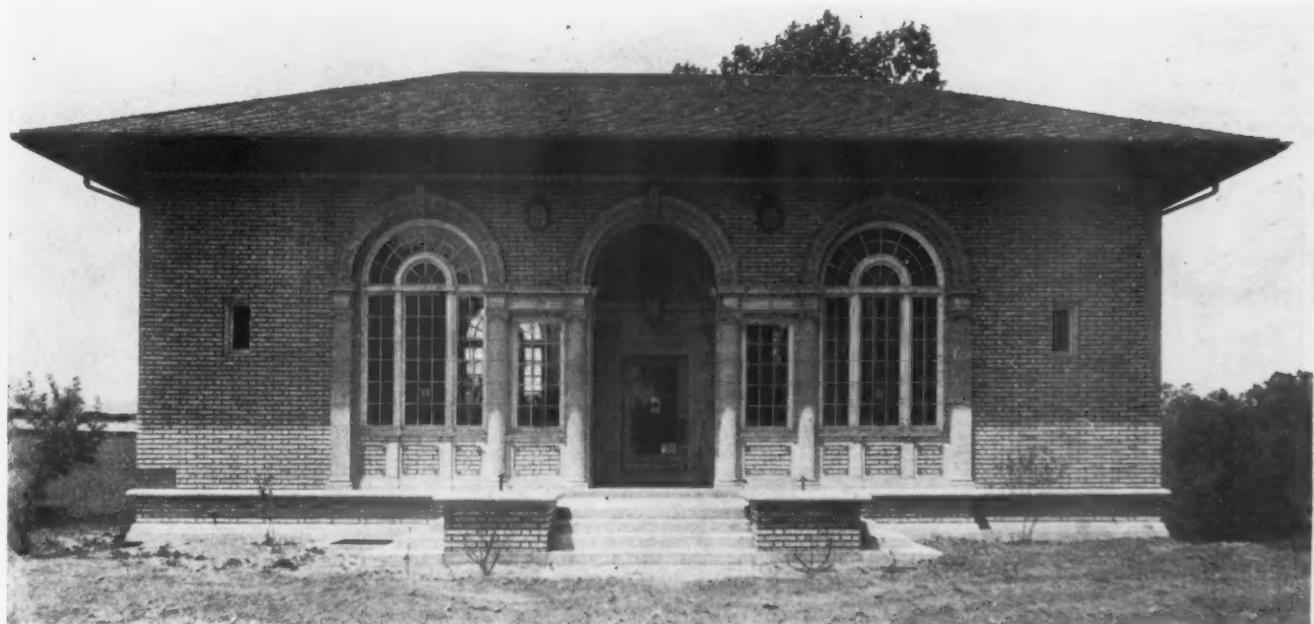
Littleton's Model Small Library



The Floor Plan, of Course, Is Simple, but the Arrangement It Well Adapted to Service the Intended Purpose.



That Part of the Basement Which Is Not Required for Coal and Boiler Rooms, Toilets and Librarian's Office, Is Well Utilized as an Assembly Room.



Even the Small Town May Have a Library Building to Be Proud of. Littleton, Colo., a village of 1,500 population, built this library at a cost of \$8,000. It is a fine example of what can be done on a small scale in combining utility and artistic design in small public buildings. The main entrance, above, is especially worthy of note, carrying an air of dignity without being heavy in proportion to the building as a whole. J. B. Benedict, Denver, Colo., architect.



HOMES in COLORS

Home Building—the Greatest Fun in the World

By WILLIAM A. RADFORD

*President and Editor-in-Chief
of American Builder*

Golf is all right.
And motoring is all right.
But say, for downright joy and satisfaction just try home building!

You begin this game by studying plan books and snooping around into every new house you see going up. Very likely you start a scrap book of clippings—each with a different sort of an idea about home planning or building, or decorations, or furnishings.

Then you consult some man in the building business who you think may know more about the technical details than you do. He may be an architect, a builder or a building material dealer, and you find him ready to help and full of enthusiasm for the home building idea.

Good progress is made under the guidance of this friendly advisor and in due course the plans are worked out, all details decided and the big day of breaking ground finally comes.

The game of home building is turning dreams into realities, and there is no keener enjoyment in life than that of

creation. To turn hopes and plans into solid walls and a tight roof, and sunshiny rooms looking out onto a garden is *real creation*—I care not how small the home or how limited in its features.

Then you watch your new home grow! Some days a lot of progress is made; and sometimes when you come onto the job at night, after the workmen have gone home, to check up on what they have been doing, you can hardly find anything new to represent the day's work; yet you know it must be there.

And then finally the house is finished—the builder says "finished" and pulls out, and you get ready to move in.

Then the real fun begins: "*Finished*," you discover, simply means that the stage has been set for YOU to get busy. Cleaning up, grading up, planting, decorating, draperies, here a new rug and there a new piece of furniture—all of these are day-by-day challenges to your energies, your taste and your creative imagination. You get in your friends to help and everyone has a fine time.

Talk about golf for reducing the waistline! Try a 12-inch shovel in mixed clay and loam on the neat little job of building an 18-inch terrace or of fashioning a rock garden!

Home building is the greatest fun in the world; it takes you out into the open air, and then brings you back inside again into real home comfort and satisfaction.



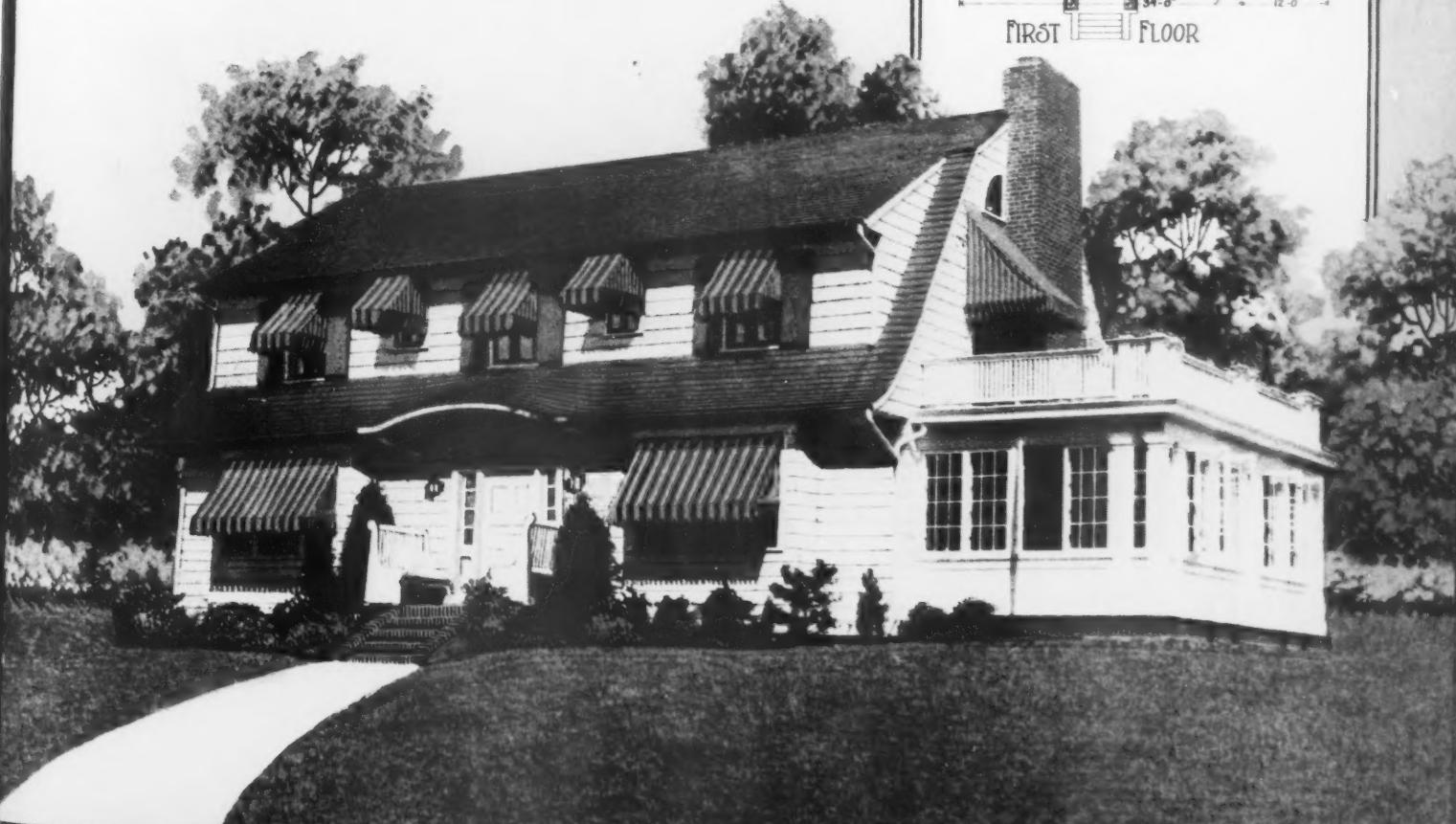
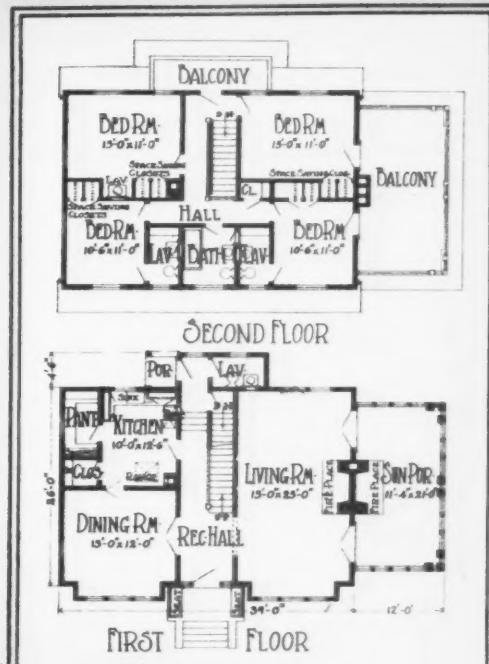
Grand Sport for All—Good Health—Activity—Accomplishment—That's the New Home!

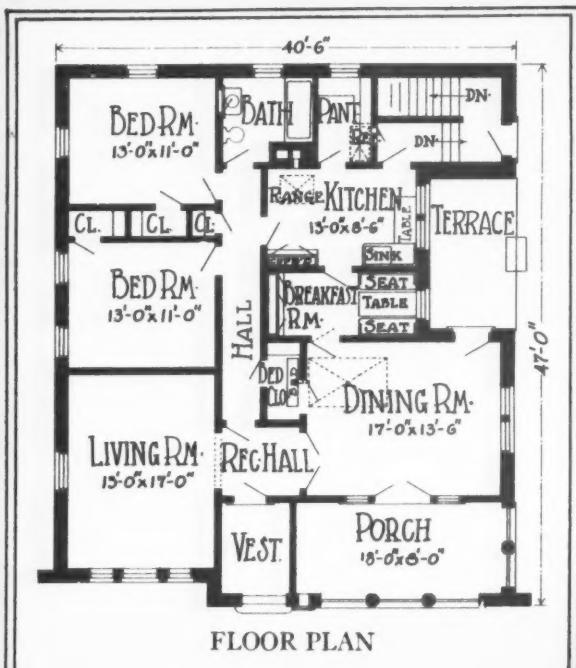
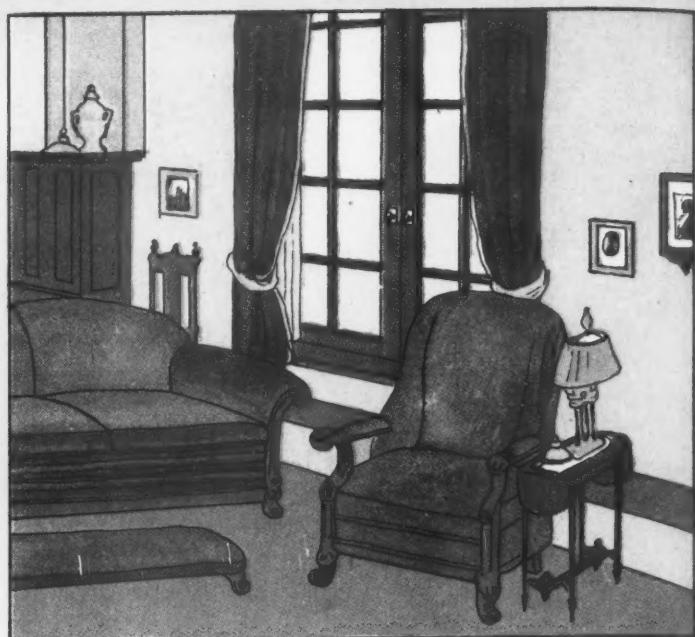
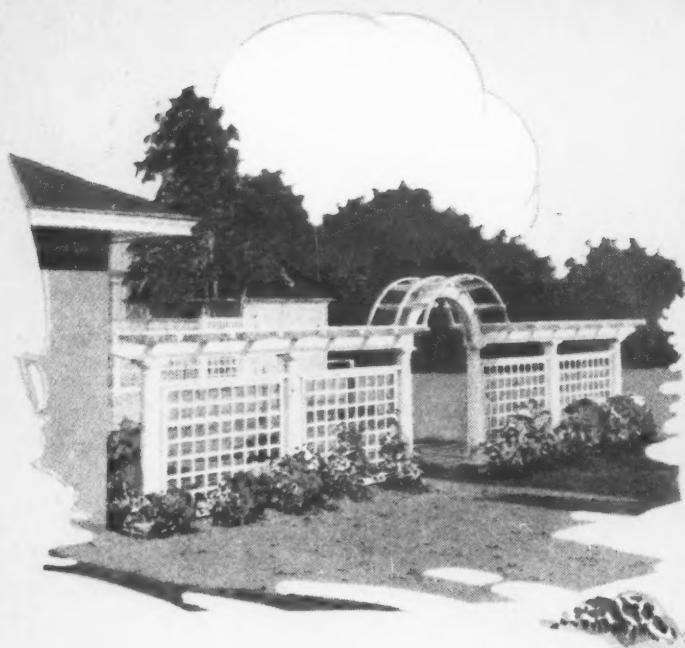


The Forestville

A DUTCH Colonial home of generous size with extra spacious living room and attached sun parlor. The upper floor contains two large bedrooms and two smaller ones. Note the generous provision of bathrooms and lavatories in this plan. A corner of the cheerful sun porch is illustrated in the color sketch and an interesting pergola shelter for a rear porch is presented.

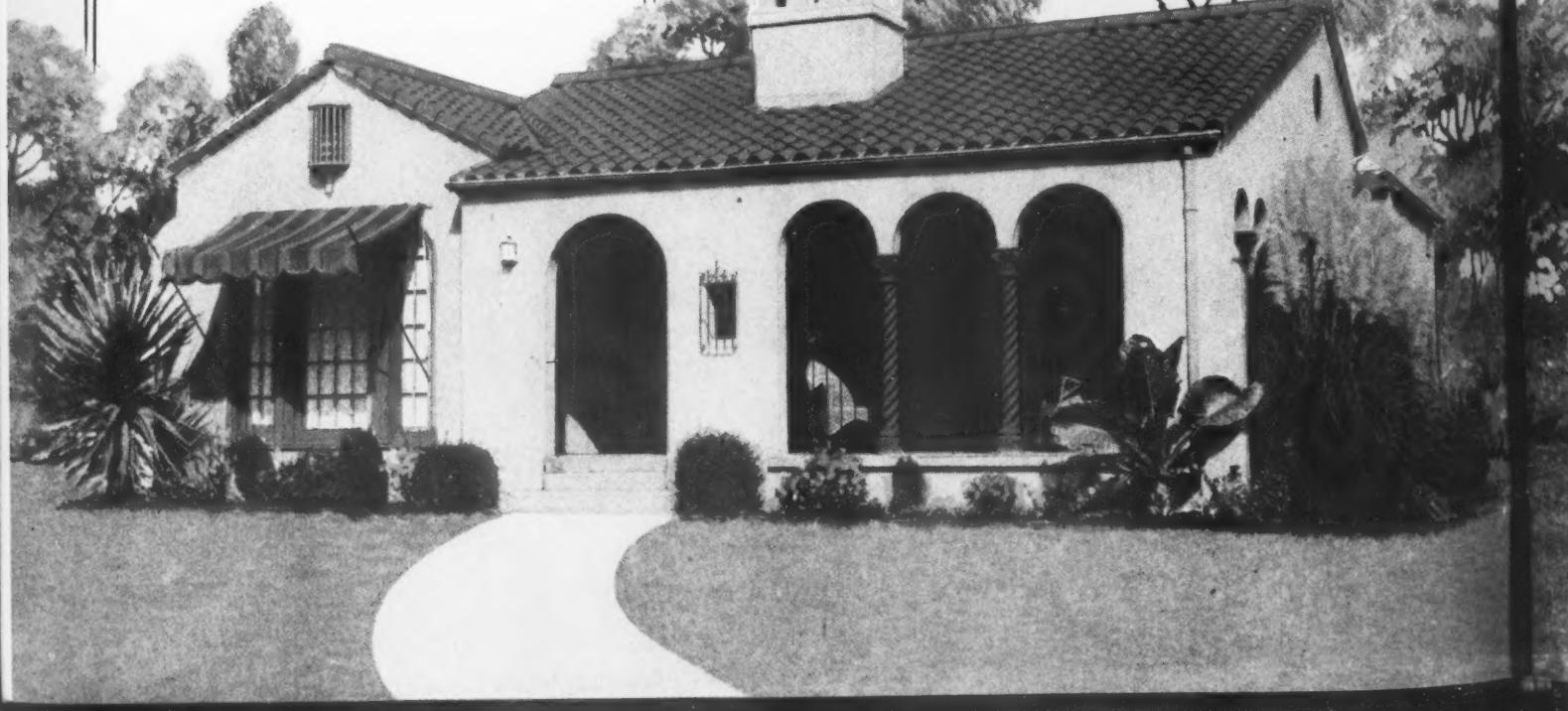
Pat. March 15, 1921 and Sept. 30, 1924. Copyright 1925
Wm. A. Radford, Chicago.

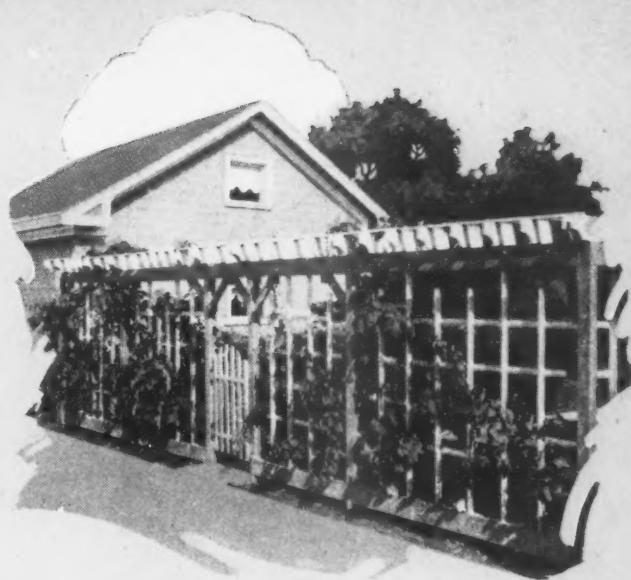
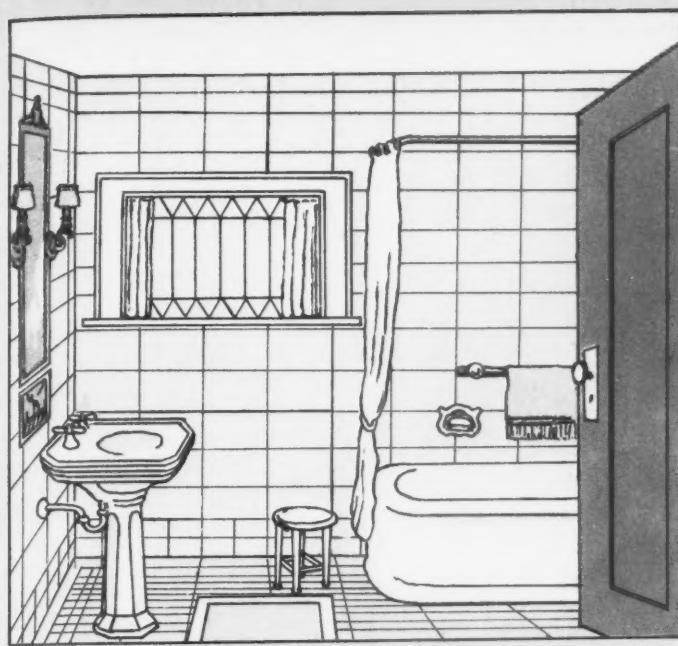




The Fontana

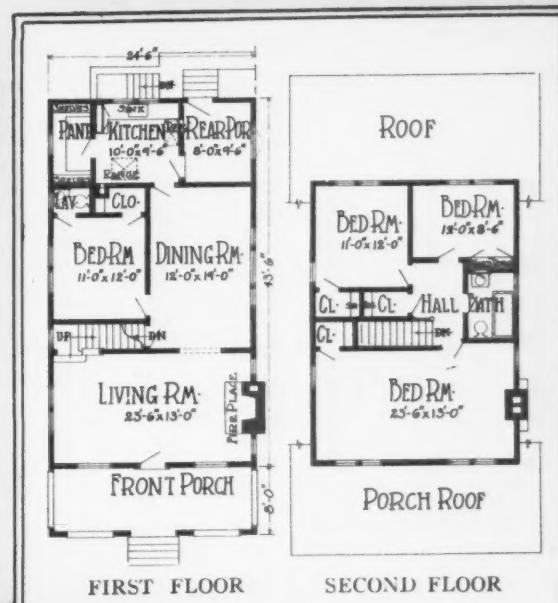
A SPANISH design of true southern charm, yet planned to withstand the rigors of a northern climate, is presented in this delightful five-room home. A disappearing bed in the dining room gives this house six-room efficiency and there is also the much favored little breakfast-room very conveniently placed. The color sketch suggests a rich treatment for the living room. An ornamental fence with graceful arch entrance is also presented.

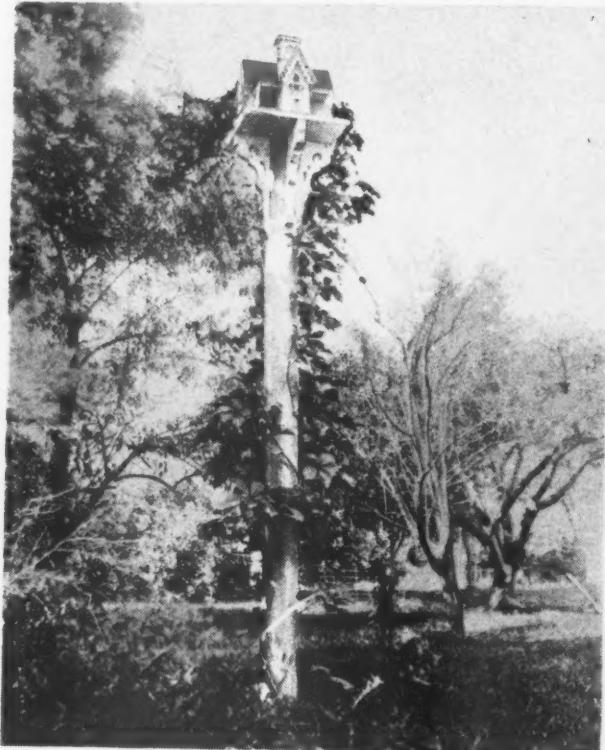
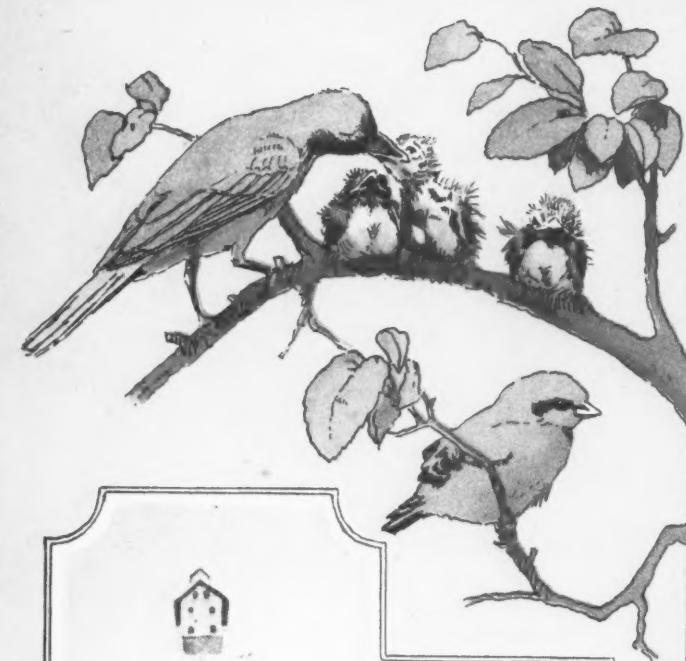




The Farnham

A DELIGHTFUL story-and-a-half bungalow of Colonial lines, yet retaining much of the old-style popular western bungalow flavor. Five rooms are provided on the first floor and three upstairs. Color sketch shows modern bathroom with walls of glass slabs. A very charming grape-vine support with pergola top may unite house and garage as illustrated to the right.

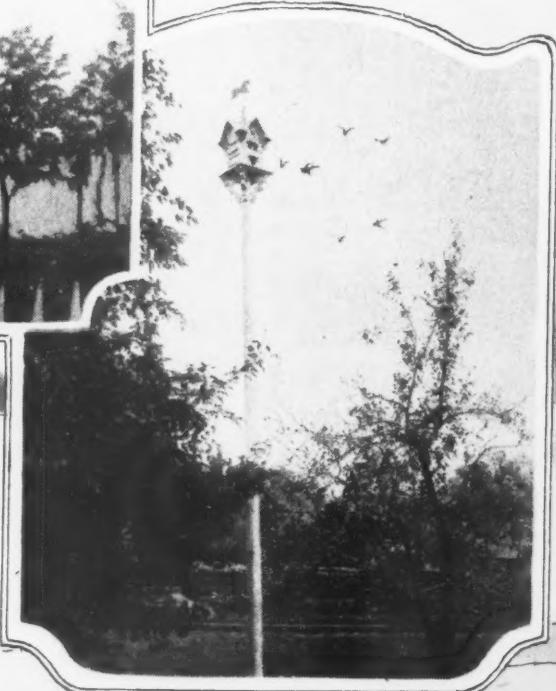


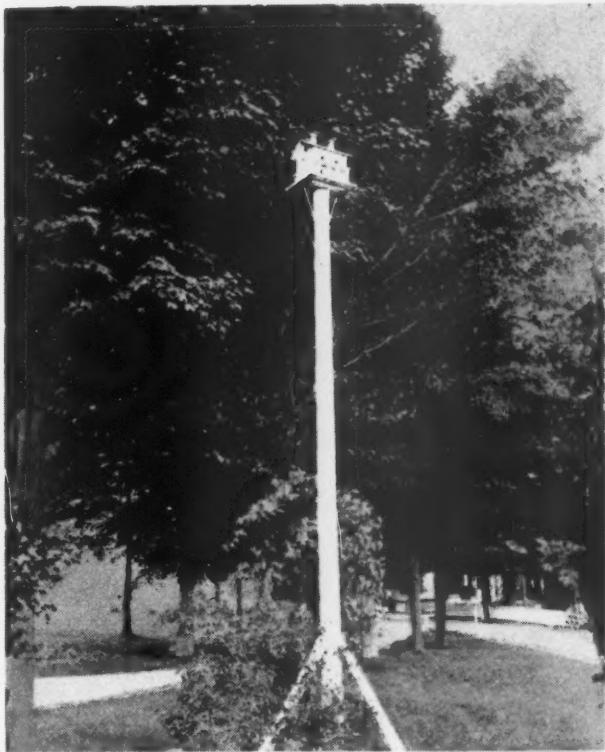


Homes for

YOU will find the building of bird houses and the methods of attracting birds a most fascinating study. The U. S. Department of Agriculture Bulletin No. 609 says:

"Birds may be gathered about us in all seasons of the year with ease and certainty merely by offering what they desire. In winter they are often pushed for food, and if we supply this need they will report daily at the lunch counter and help to relieve the tedium of our indoor life. In summer they care less for food provided by their human friends, and other means must be sought to attract them about the home. They appreciate fresh water for bathing and



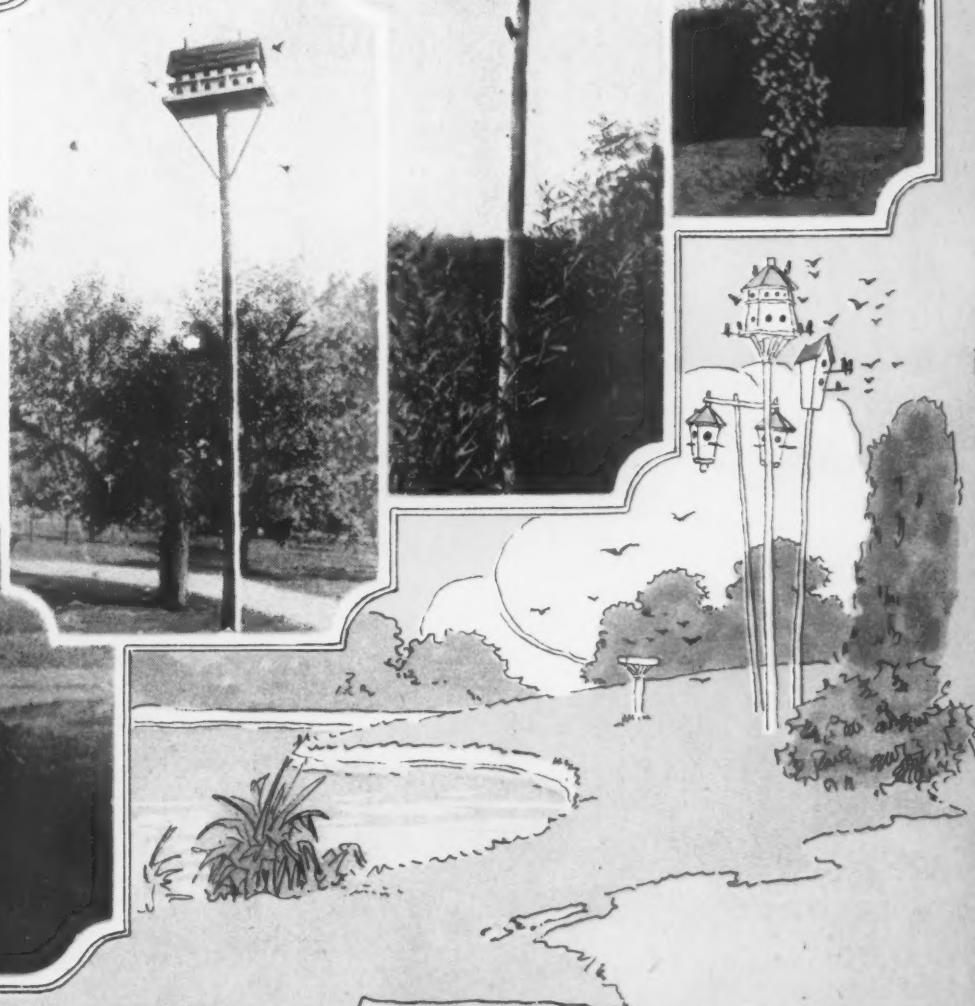


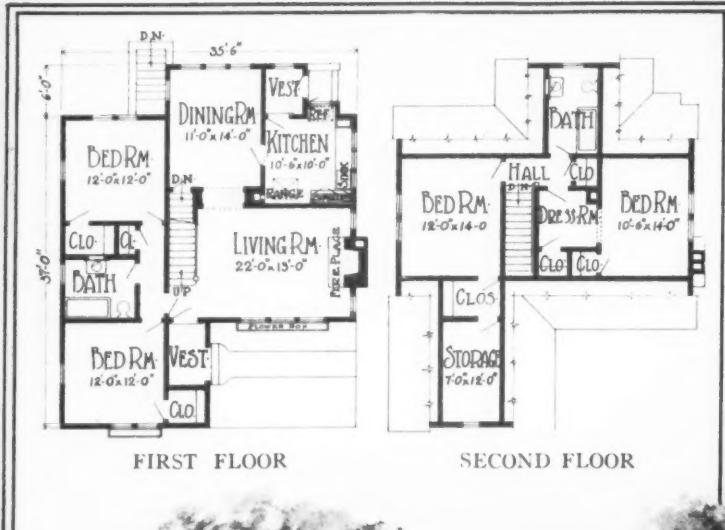
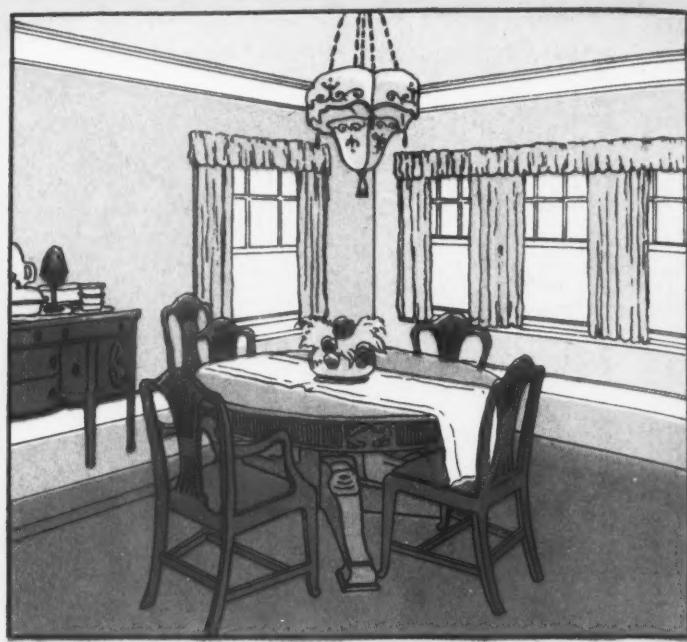
the Birds

drinking. A shallow pool of varying depth, if only a foot across, becomes on hot days a center of attraction for all the birds in the vicinity. If safe retreats are furnished in which birds can rear their young comfortably, most of them will be occupied. In fact no attraction for summer birds is more effectual than a series of houses suited to the needs and habits of the various kinds of house birds.

"The practice of erecting bird houses in this country, while now nation-wide is not so common and uniformly distributed as it should be, and more extended provisions of this nature can not fail to result in a largely increased number of house birds."

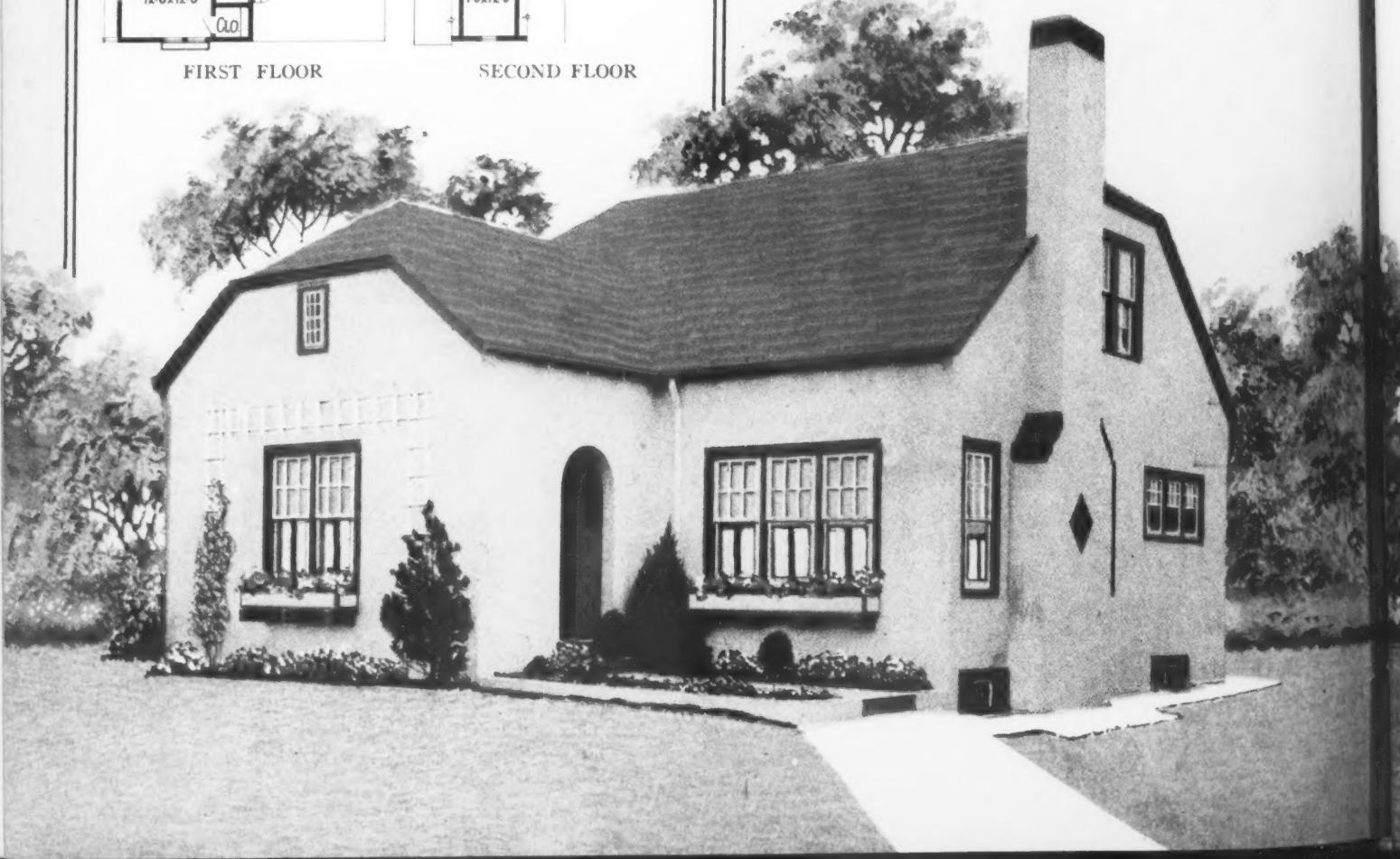
Bird house photos by
Mrs. Linn White.

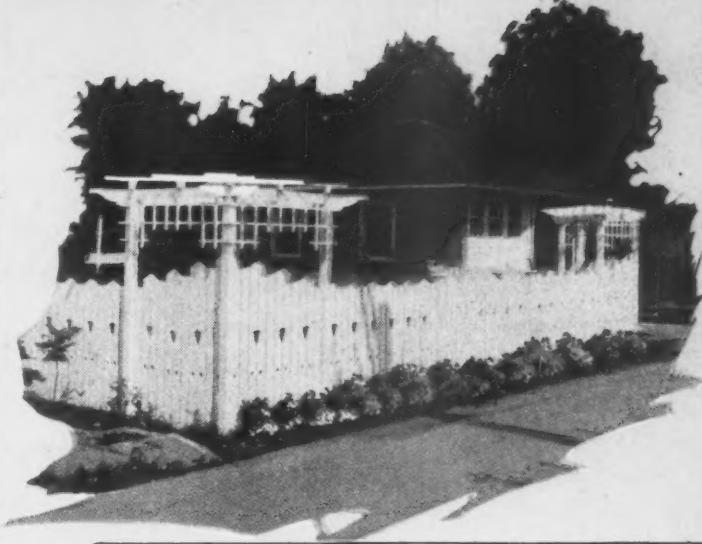
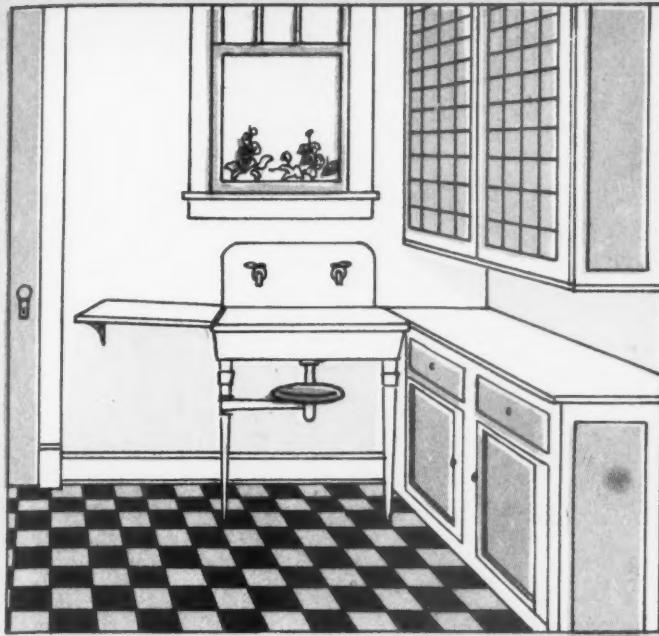




The Fayette

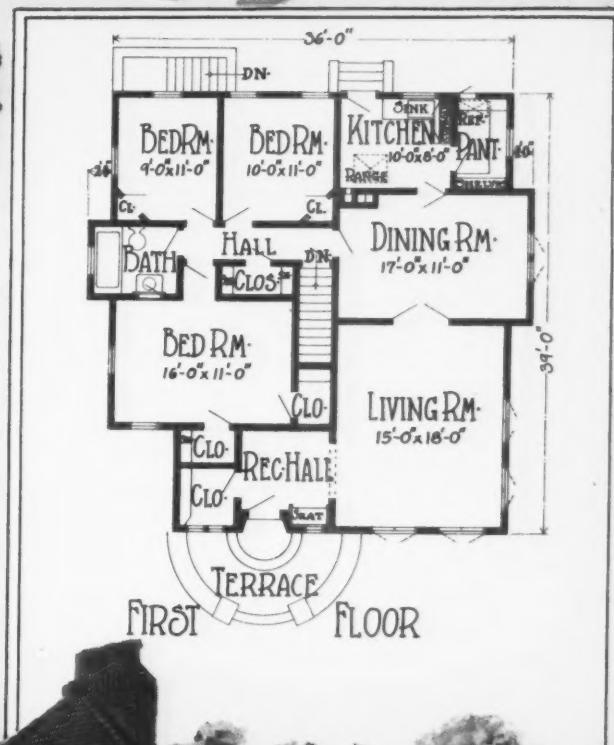
A DESIGN of delightful French atmosphere containing five rooms on the ground floor besides two bedrooms, bathroom and large storage space up under the roof. Color sketch above suggests an attractive dining room arrangement. To the left is a gateway of character in keeping with this home design.

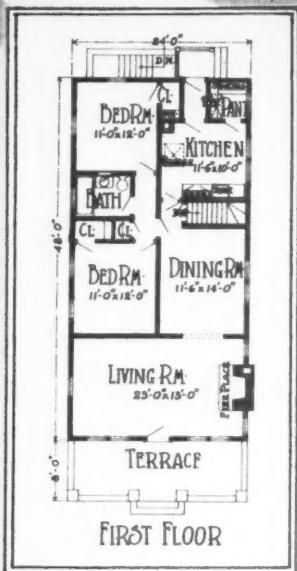




The Fredonia

A STUCCO cottage of distinctly foreign flavor containing six well arranged rooms. Color sketch shows efficiency fittings for the modern kitchen. To the right is pictured an attractive ornamental fence with an unusual feature of pergola roofed corners.



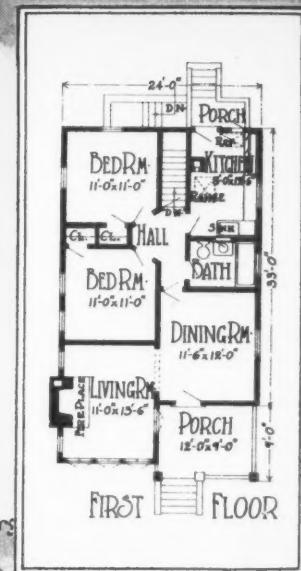


The Fairfield

Five rooms and an open terrace front porch. Size of house 24 by 48 feet.

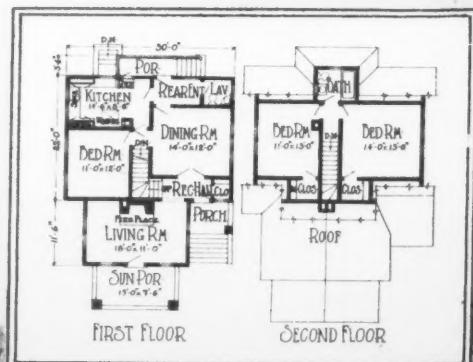
The Falcon

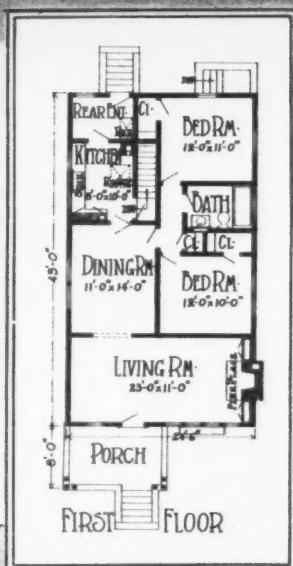
Five room home.
Size 24 by 40 feet.



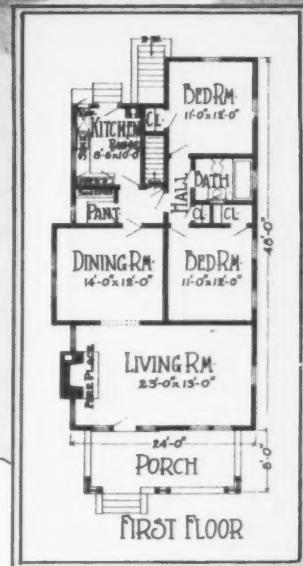
The Fruitland

Story-and-a-half bungalow of six rooms. Two-car garage designed to harmonize.



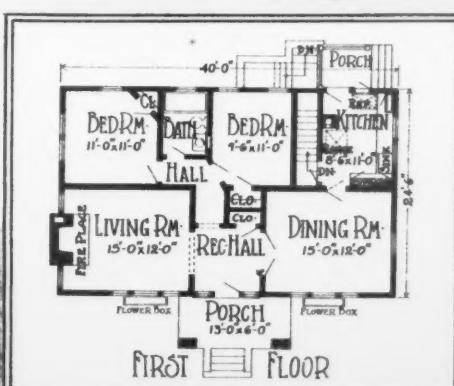


The Fargo
Five rooms, but only
24 feet 6 inches wide.

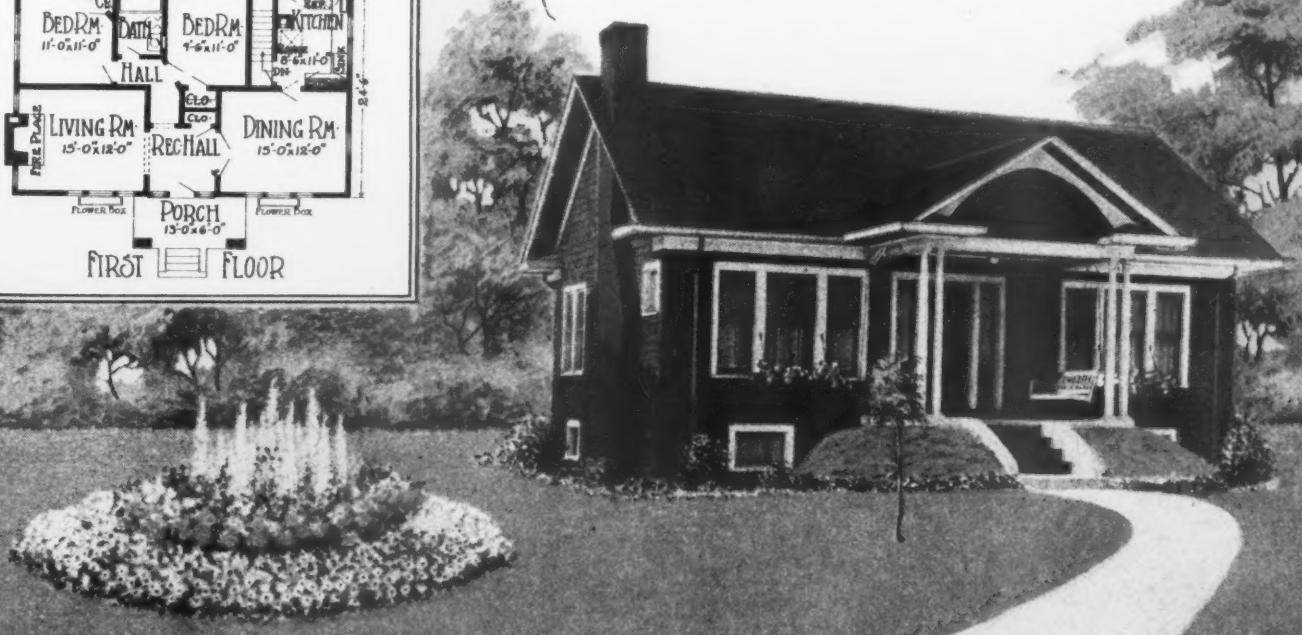


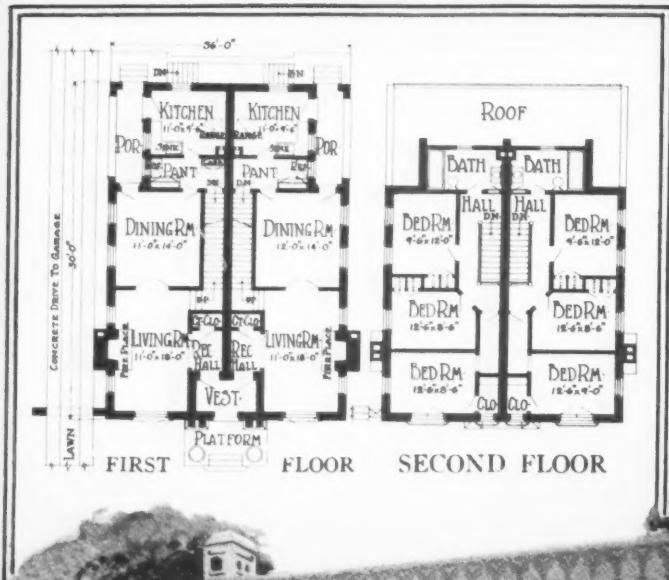
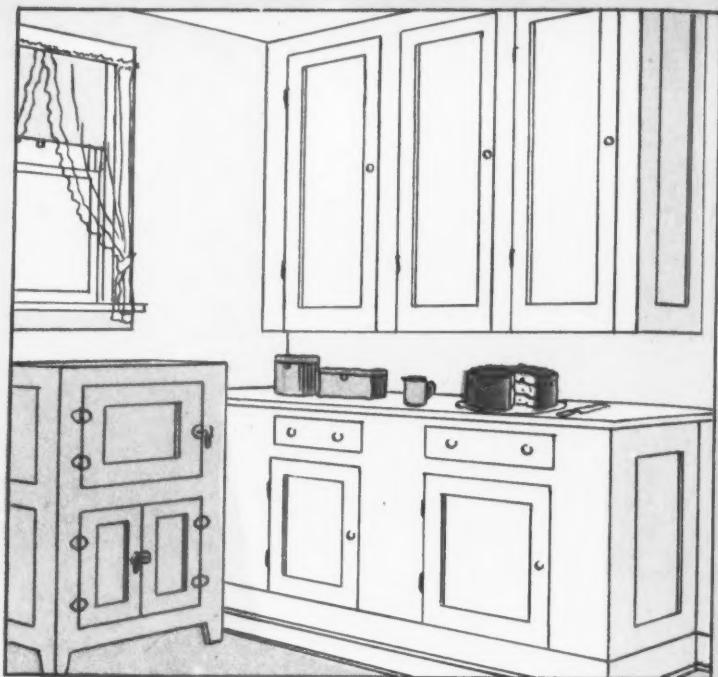
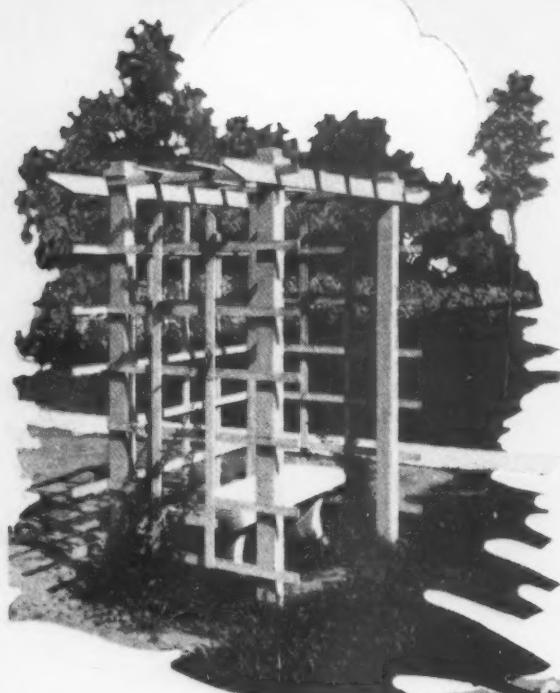
The Fillmore

A most attractive
bungalow of five
rooms. Size is 24 feet
by 48 feet.



The Fernwood
Five rooms and bath. Size 40
by 24 feet 6 inches.

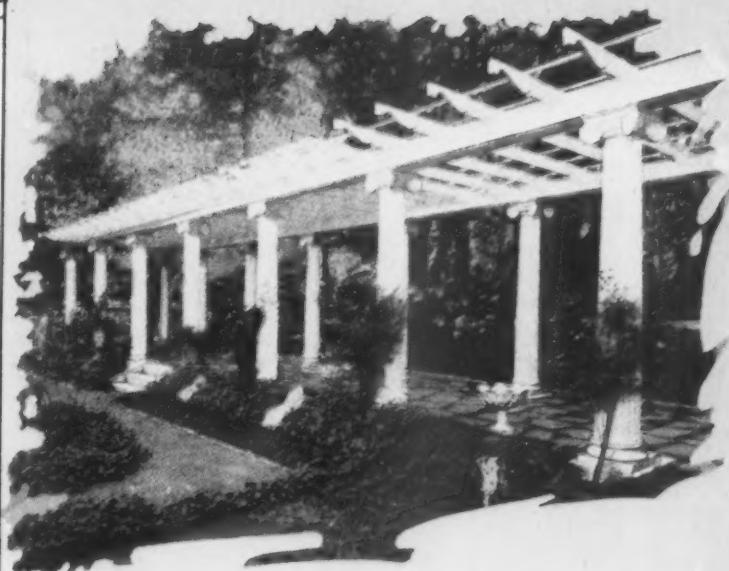
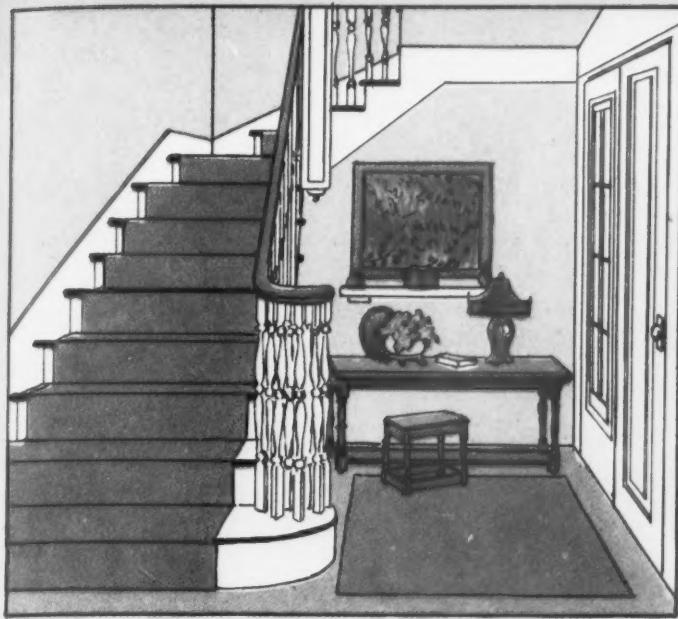




The Fresno

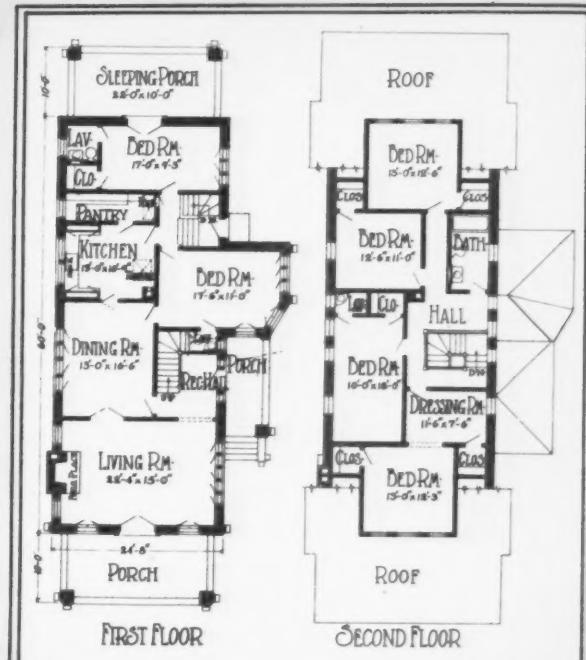
*A*n attractive double house of Spanish design, each half containing six rooms and bath. The width of the building is only 36 feet which permits good light on all four sides. The color sketch above suggests the convenient arrangement of the pantries. A sheltered seat for the garden is also shown.





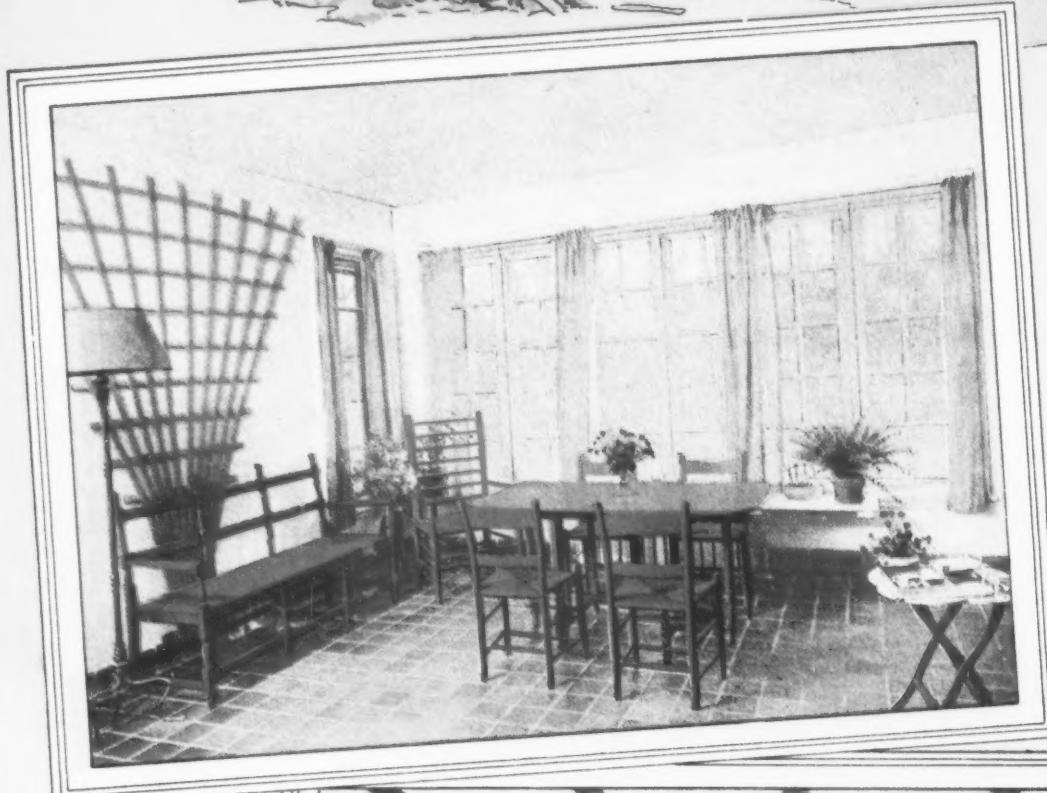
The Fremont

A NINE-ROOM house especially planned for the narrow city lot—a brick bungalow of graceful and interesting lines. Color sketch shows attractively designed entrance stair hall. A pergola sheltered walk as illustrated to the right is a fine addition to the home grounds.





Colonial



A GROUP of casements (photo to left) arranged in pairs, and divided into small panes floods this breakfast room with cheerful sunshine. The fan trellis is unusual for interior decoration, but here produces a delightful outdoor effect.

B BELOW is pictured a graceful Colonial dining room, with circle head doors balanced each side of the fireplace. Note the hand wrought door hinges.



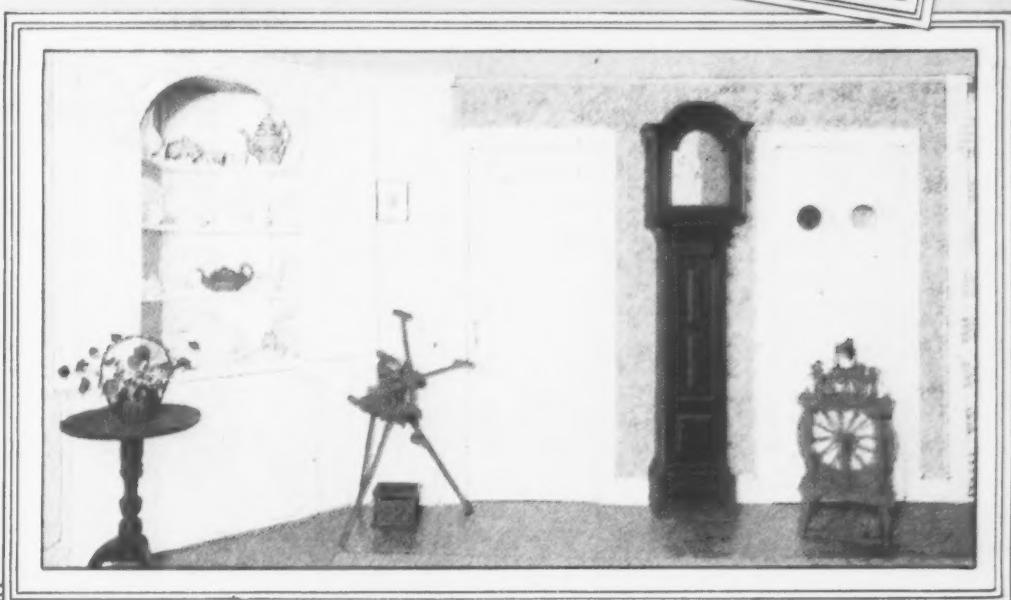


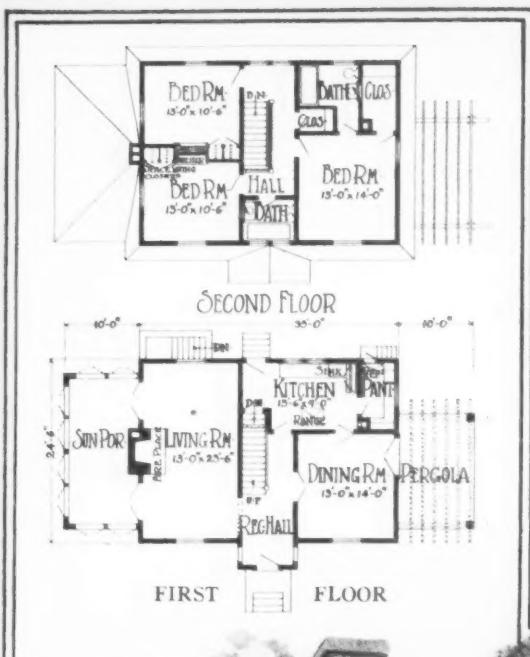
Interiors

OPEN book shelves are typical of the Colonial home—and no other sort of bookcase is quite so decorative or so inviting. The library above and to right is a model.

SPINNING wheel, grandfather's clock, yarn measuring wheel, corner cupboard, and flower stand—all these are authentic Colonial details.

BELOW is shown a homelike living room furnished in the best taste to combine comfort and correct Colonial style.

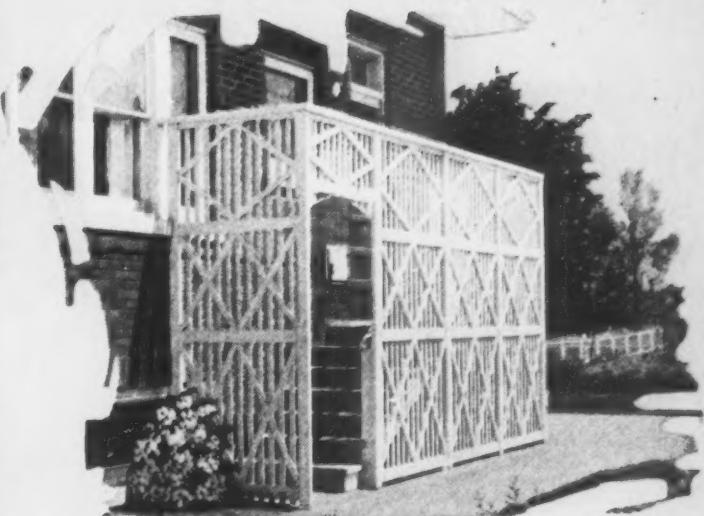
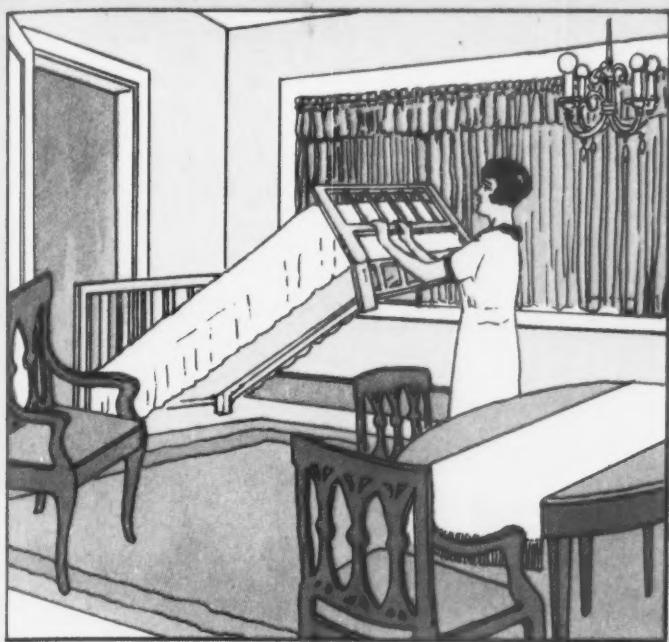




The Franklin

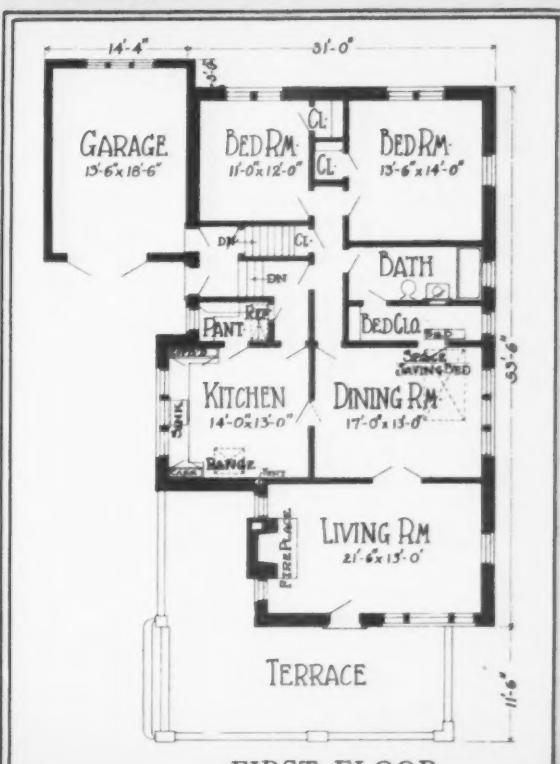
HERE is a clever little Colonial, small in cost but big in convenience and comfort. The main body of the house is 24 feet, 6 inches, by 35 feet, but the width across the front is greatly increased without much additional expense by the private porch and the pergola. The color sketch suggests proper decoration and furnishing for one of the bedrooms.

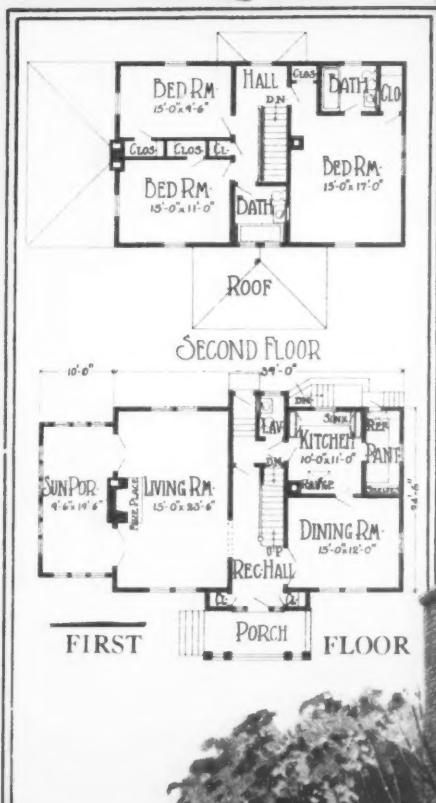
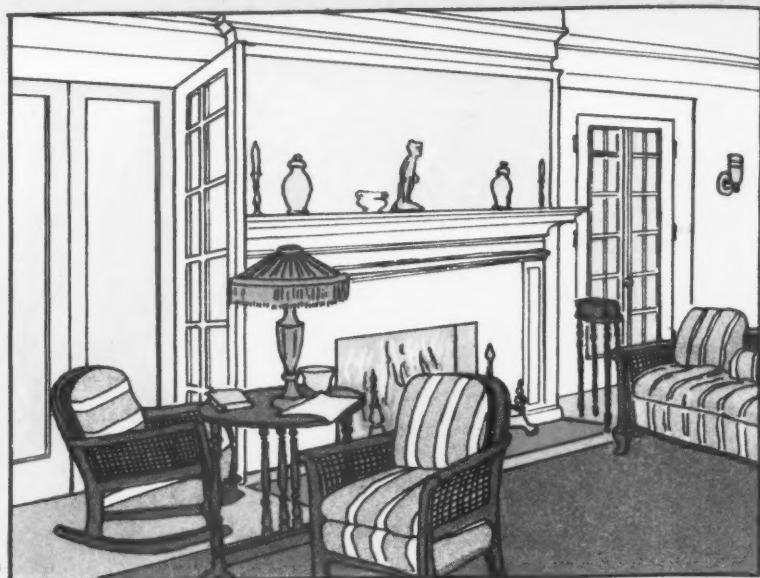
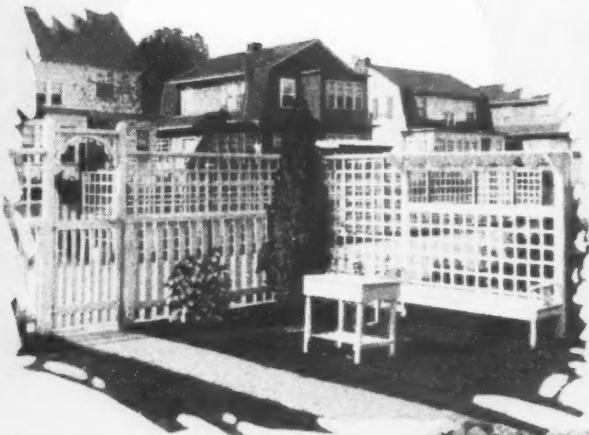




The Flossmore

A COMFORTABLE brick bungalow of five rooms with attached garage to go nicely on a fifty-foot lot. Extra efficiency is given this house by the space-saving fold-away bed in the dining room with its large and conveniently placed bed-closet-dressing room. The operation of a bed of this type is illustrated in the color sketch above. An attractive lattice work screen for a kitchen entrance is shown to the right.



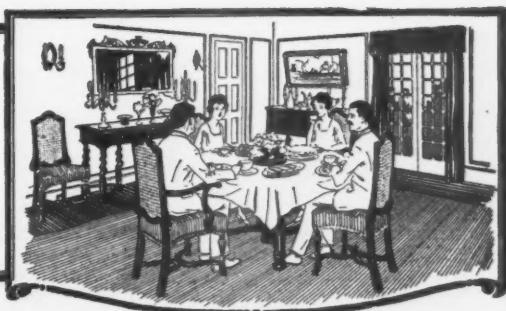


The Frankfort

*A*n efficient, square, hip-roofed design of six fine rooms besides the big sun porch. Two bathrooms are provided on the second floor and a lavatory downstairs. There is solid comfort and great convenience in this fine home. The color sketch above suggests furnishings for the living room and to the left is an attractive lattice fence with ornamental gate-way and bench for lawn or garden.



OUR FRON'T COVER HOME



Straight Gable Colonial Design is Liked by Everyone and Delivers Most House for the Money Invested

OUR Front Cover Home for March is a delightful Colonial—white with green shades and an open entrance approached by brick steps and wrought iron hand rails in the approved Colonial manner.

This house measures 25 feet by 36 feet 6 inches; 9-foot ceilings for the first floor, 8-foot 6-inch ceilings for the second floor. So this is not a large house and should not be expensive to build. At the same time, a surprising amount of good, livable space is provided, as a study of the floor plans will show.

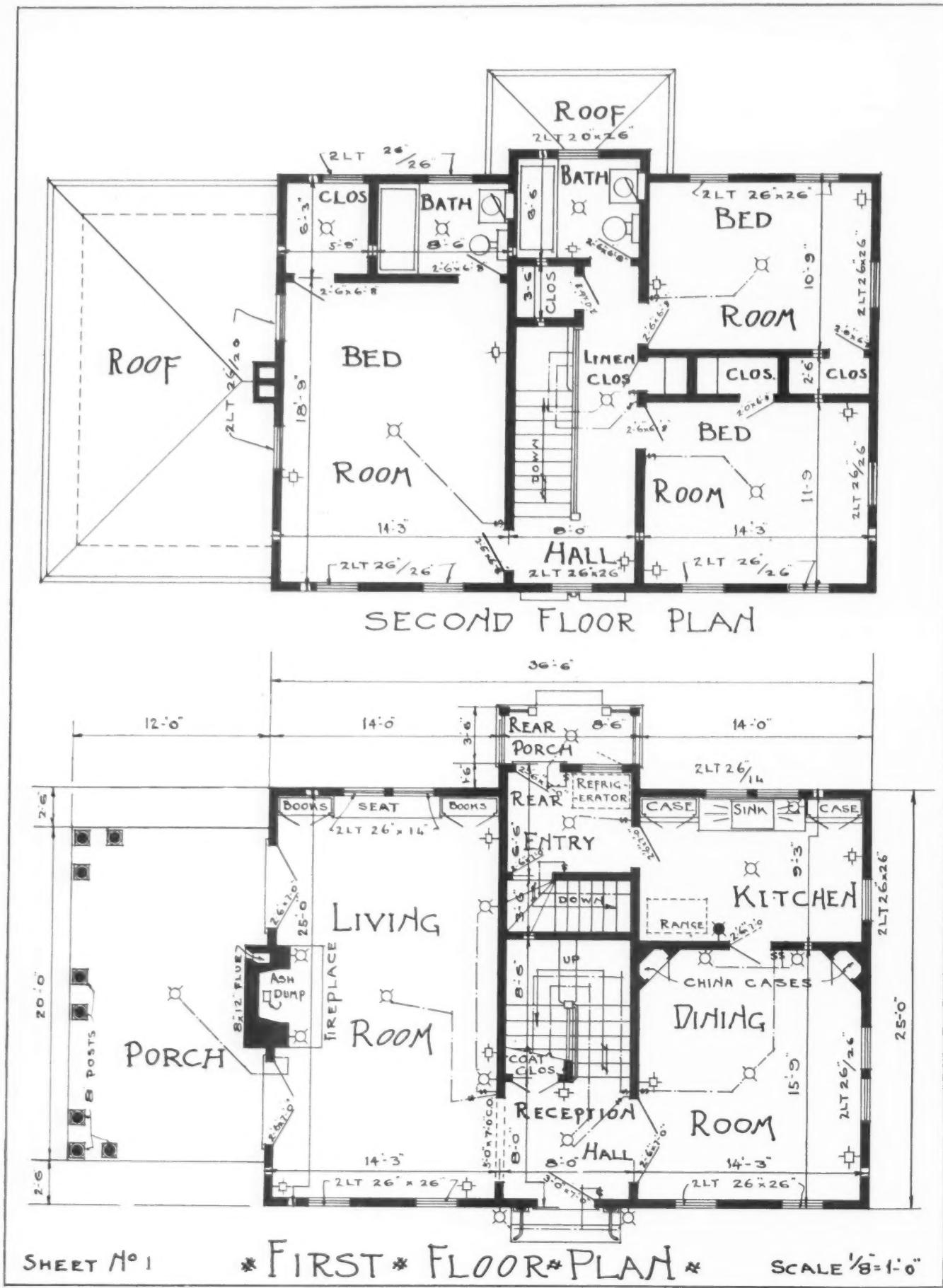
This design follows the approved arrangement, with central reception and stair hall, the space to the left being given over to the large living room, 14 by 25 feet, and the space to the right being shared between the dining room and the kitchen. Directly back of the reception hall is the service entrance and the stairs to the basement. On the second floor the stairs come right to give a central hall which really takes up little space and yet carries an impression of size and dignity. To the left of the hall is a large

bedroom with private bath, and a large well-lighted clothes closet or dressing room. To the right of the hall are two smaller bedrooms, each with clothes closet. Two closets also open off the hall and the general bathroom is at the rear. The basement nicely provides for the laundry with set tubs and electric outlet for washing machine and electric irons. The heating plant is at the other end of the basement near the fuel room, which is provided under the side porch. This would be convenient either for storage of coal or for oil tanks and pumping equipment if fuel oil is to be used.

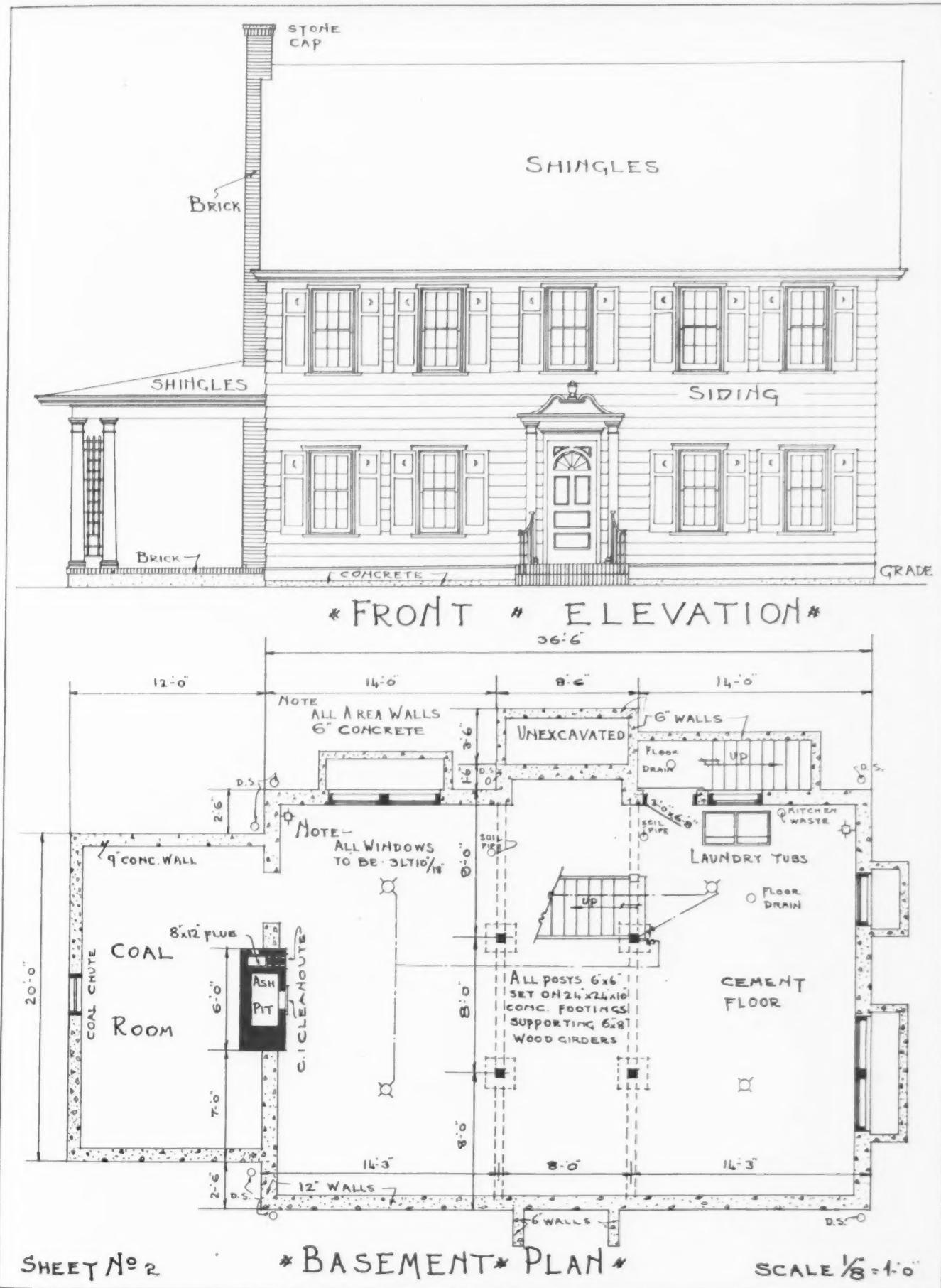
The four pages of working drawings which follow are very practical, in that they are presented here to an exact scale as marked and are complete enough so that this beautiful Front Cover Home could be actually built from these plans if desired. The construction details on sheet 3 give story heights, slope of roof and all necessary information concerning the construction of this home.



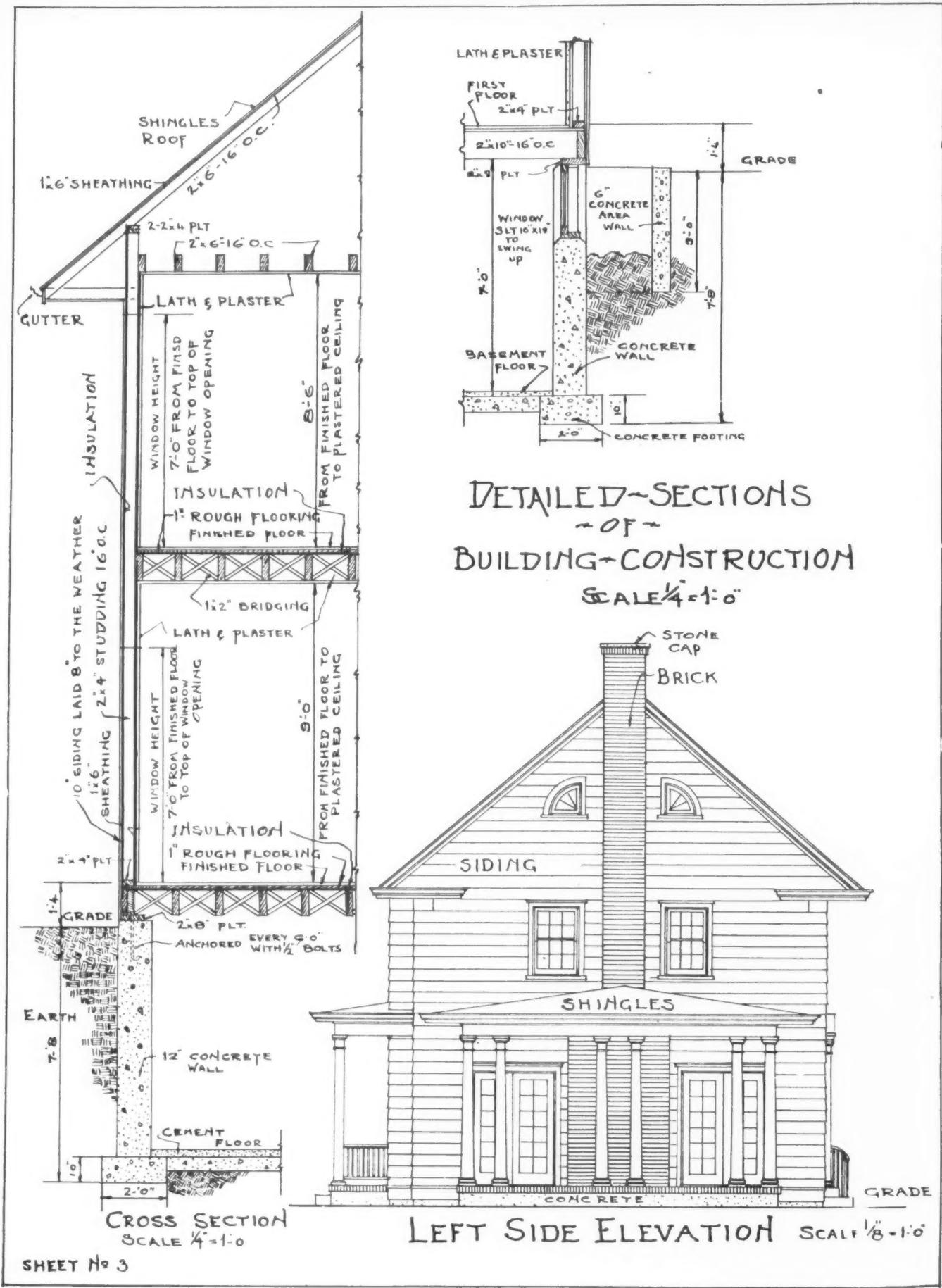
In Colonial Style, White with Green Shutters, Brick Steps and Wrought Iron Hand Rails to the Entrance, the Front Cover Home Is Roomy but Inexpensive. Working plans for this house are shown on the next four pages.



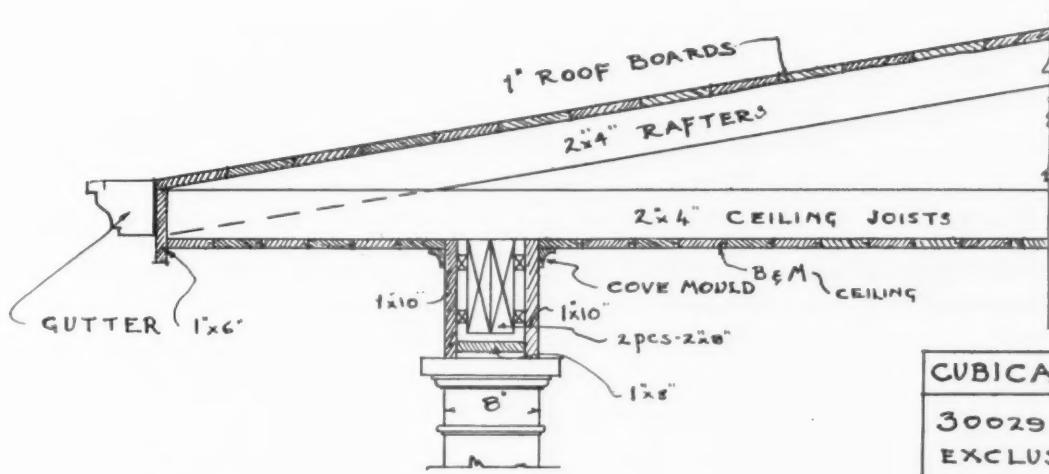
A Large Living Room with Fireplace, Window Seat and Built-In Book Cases Is the Most Striking Feature of the Well Arranged First Floor of Our Front Cover Home, While a Large Bedroom with an Extra Bath Is the Feature of the Second Floor. On the opposite page will be found the basement plan and front elevation.



The Basement Plan of Our Front Cover Home Shows the Division of This Space with the Laundry Well Separated from Furnace and Coal Room. The front elevation, above, gives the placement of windows and design of the front entrance. On the next page are the left side elevation and detailed sections of construction.



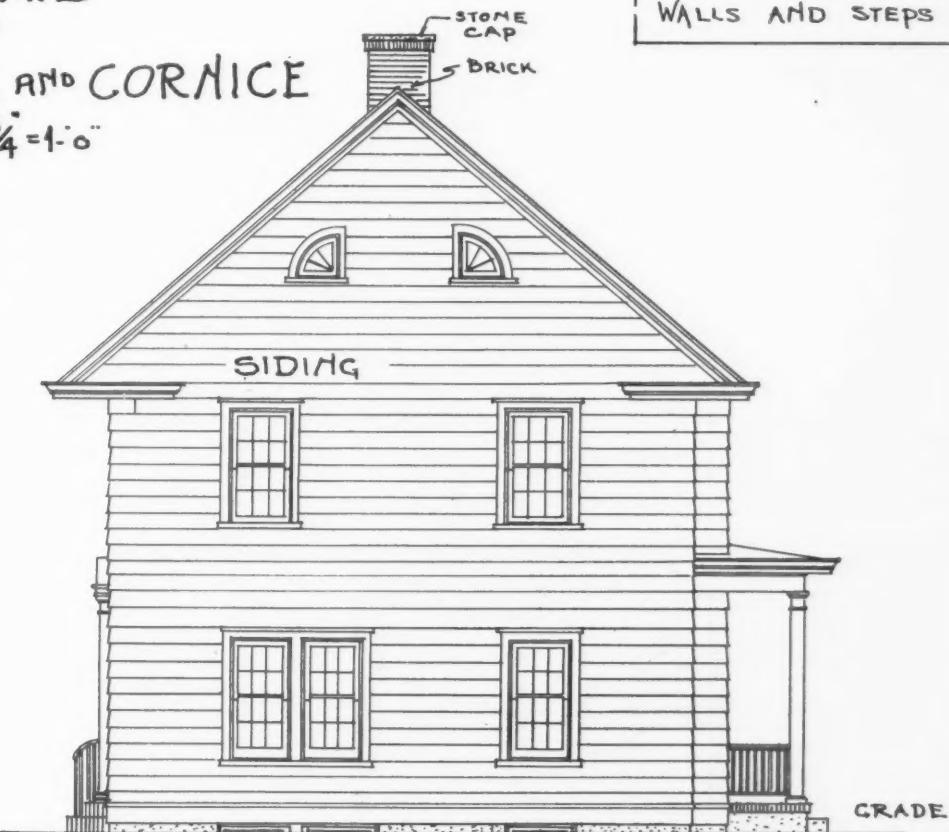
The Left Side Elevation Shows the Relation of Porch, Chimney and French Doors in Our Front Cover Home. The sectional views furnish construction details of the walls, floors and foundations. For the right side elevation and construction details of porch roof and cornice see the next page.

**CUBICAL CONTENTS**

30029 CUBIC FEET
EXCLUSIVE OF
PORCH AND
BASEMENT AREA
WALLS AND STEPS

**DETAIL
OF
PORCH BOX AND CORNICE**

SCALE $\frac{3}{4} = 1\text{-}0"$

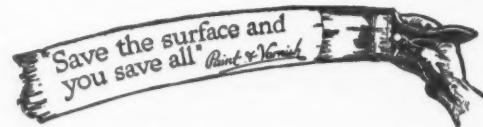


RIGHT SIDE ELEVATION SCALE $\frac{1}{8} = 1\text{-}0"$

SHEET NO 4

In the Right Side Elevation of Our Front Cover Home the Wall Is More Simple. The basement windows are placed below grade in concreted area ways. Above are the construction details of the porch roof and cornice.

SAVE THE SURFACE DEPARTMENT



Written, Illustrated and Edited by the Headquarters Staff, SAVE THE SURFACE CAMPAIGN

THREE is tangible evidence of "Saving the Surface" in your hands this very minute. The cover of this magazine, according to the editorial in the January issue, has been varnished for greater service. The Editor states that it is varnished to preserve it against fading and soil, and to enhance the beauty of its coloring. In that short sentence we have the two major reasons for all painting or varnishing

jobs, great or small—preservation and beautification. A magazine such as the AMERICAN BUILDER passes from hand to hand among many people—home builders, architects, dealers, realtors, contractors and builders. The varnished cover keeps it fresh and clean long after the ordinary publication would have become a useless handful of tatters.

—SAVE THE SURFACE EDITOR.

Less Labor in Housework

Property Improvements Which Reduce the Labor and Cost of Housework Have a Definite Selling Value

A WOMAN'S preference concerning details of interior finish are generally the deciding factors in the buying of a house. Modern women, through countless magazine and newspaper articles and advertisements, have been sold on labor saving devices and finishes. They are, of course, often influenced by a well planned decorative effect for living room, dining room or some other part of the house, but with nine-tenths of the women of today the absorbing question is, "Is it easy to clean?"

Fraudulent construction is a thing of the past. With most modern builders, good materials and carefully handled construction are a matter of honor, but when it comes to selling, they find that it is the clever little accessories and appointments, which are both artistic and labor saving, that appeal to feminine hearts and complete the sale.

There are four or five points around a house which a woman looks to carefully in connection with cleanliness.

These are all places which she knows it will be desirable to keep in a sanitary condition; at the same time she wants to keep them so without wasted effort, without spending hours scrubbing rough, badly finished surfaces which in the end will not be clean enough to satisfy her.

The builder or the man who has real estate for sale who studies these features of a house, and after finishing them in the most approved modern fashion, stresses their desirability with a prospective buyer, will have accomplished nine-tenths of his object, a satisfactory sale.

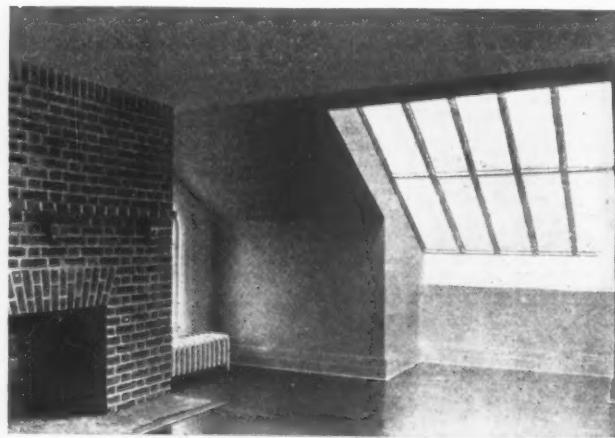
To begin at the bottom of a house and work upwards, the up-to-date woman, who has been educated in the doctrine of "an ounce of prevention," looks to the sanitary condition and finish of the cellar, the kitchen, the walls and floors throughout the house, including the bathroom.

The cellar, the "beginning of the house," is very often not given the attention it deserves. Every cellar can and should be made watertight; health demands this. There is little doubt that damp, dirty cellars are responsible for much illness. One model twentieth century cellar has the steps painted battleship gray. A narrow white band is painted on the treads and risers where they abut against the stone cellar wall. Another white line has been carried the full width of the stairs where each tread and riser meet. These lines make each corner and angle white. The advantage of this from a sanitary standpoint, is that no dirt can lurk unseen on the step. After the stairs have been swept or scrubbed it is very evident that they are clean, and there is always satisfaction in being able to see the fruits of labor.

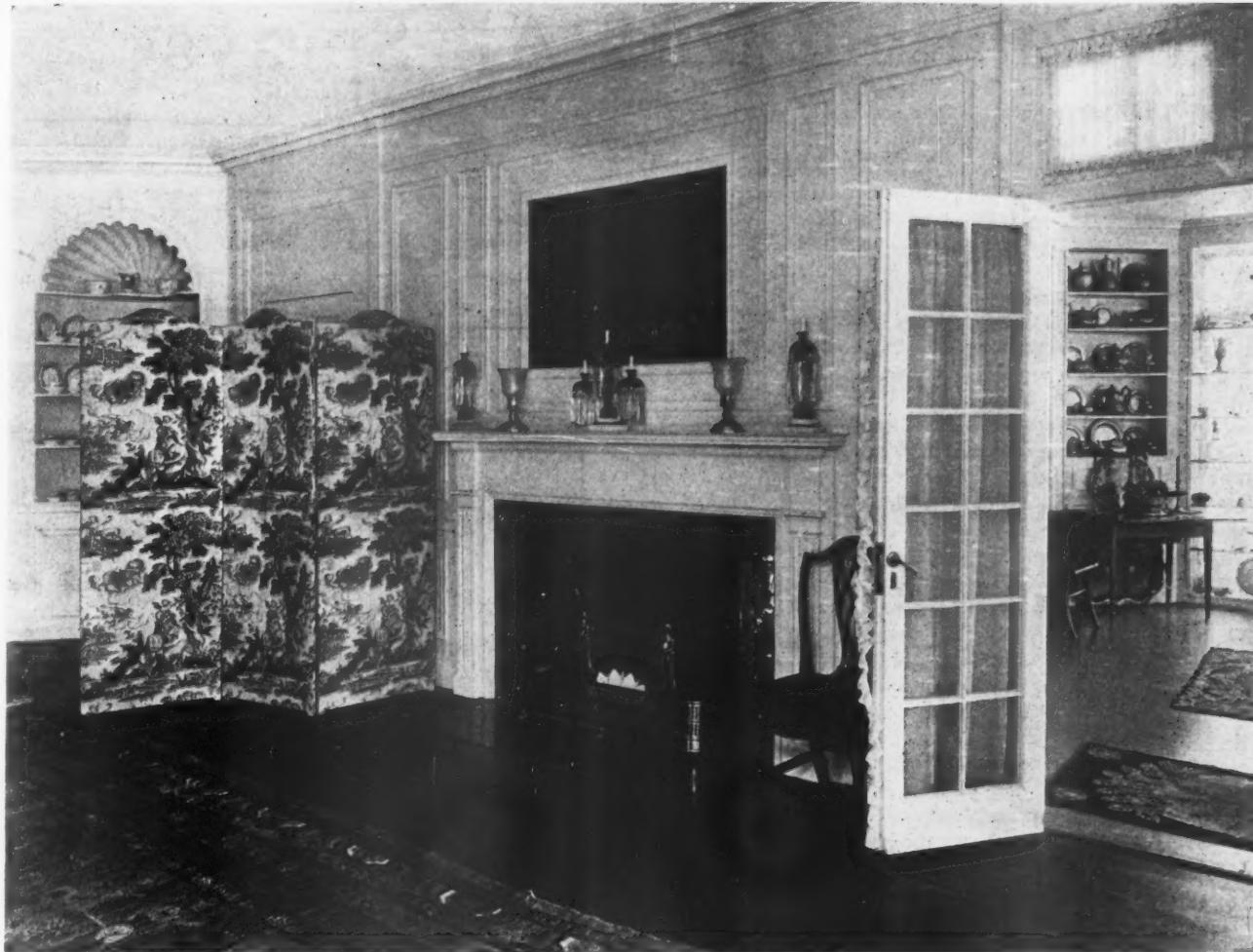
Still another white line, painted on the surface of the treads, at the ends farthest from the wall, adds to the appearance and furnishes a guide line in a dim light.

If the cement floor and stone walls are painted, moisture will not so readily seep through, a great deal of dust will be eliminated and cleaning will be made much easier and more thorough.

Wallboard fitted against the beams of the ceiling and painted in a light color will make the cellar more attractive and



An Attic Converted Into a Studio or Playroom with Wallboard and Paint Is a Fuel-Saving Insulation. Painting the radiator to match the walls improves its appearance and increases radiation.



The Attractiveness of This Interior Is Not Its Only Recommendation. Painted walls and varnished floors are sanitary and easy to keep clean. They reduce the cost and labor of housekeeping.

prevent dust from sifting through to the rooms above. Drafts will be stopped, heat conserved and light reflection increased, to say nothing of the cleaning labor saved. Even without the use of wallboard, painting the flooring and beams which form the cellar ceiling will do much to secure these desirable ends.

Nowhere should sanitation be practiced more rigidly than in the kitchen where the home-maker prepares the food, thereby making herself largely responsible for the health and happiness of the family. The realization of this is the reason why the efficient housekeeper insists on painted surfaces, both plaster and wood, in her kitchen. She likes the assurance that soap and water will remove the dust and dirt where germs find their breeding places.

Tile floors are, of course, the sanitary floors, but they are cold and tiring. Besides, they take away the "homey" atmosphere and give the kitchen an institutional look. A good method to follow is to have the floor painted or varnished, making sure that all the cracks between the boards and around the subbase are well filled with crack filler after the first coat of paint is applied. A floor finished in this way will not need to be scrubbed, wiping it with a damp cloth will leave it absolutely clean.

The problem of kitchen improvement continues to be an absorbing theme with all home builders. Women want their kitchens to be practical and at the same time artistic.

One way of accomplishing this is by the use of color. The all-white kitchen has been experimented with and proved to be "too much of a good thing." It not only fails to give that much-to-be-desired clean look (unless, indeed, a woman spends nine-tenths of her working hours wiping its surfaces)

but it is hard on the eyes and nerves and not so cheering as a colorful room.

Since moisture from condensed steam and vapors from cooking discolor the walls and ceiling, no modern housekeepers want anything but painted walls in the kitchen, but many of them make the mistake thinking that walls to be washable must be white. As a matter of fact, walls tinted the desired color will "stand up" better under the application of soap and water than the pure white will. Walls painted with a flat washable finish, or with "mill-white" in pale green, dull blue, or warm yellow, combined with ivory enameled woodwork and "built-ins" will be a "flying start" towards making the kitchen durable, sanitary and attractive. Whatever the color scheme chosen, the ceiling should be painted ivory or cream. Such a kitchen will almost sell a house on its merits.

The beauty of the popular painted wall techniques is enough in itself to make them desirable, but when their washability and durability is brought to attention the majority of people are completely sold on them.

A mop slides quickly and easily over floors which are painted or stained and varnished. Floors finished in this way may be washed with cold water at regular intervals without impairing their lustre.

Painted or enameled walls in the bathroom are a good substitute for tiles. If the lower walls are tiled, the upper portion and the ceiling should be painted.

Paint, varnish and enamel are among man's worthiest labor saving inventions, though they are not always thought of as such. Try these selling points on a prospective home-builder or purchaser, and watch the result.

Painting with Air Sprays

WOULD you believe that one man could paint a certain area in an hour and fifty-one minutes, while it took another sixteen hours? Would it startle you to hear that a man could paint the side of a freight car in five minutes? You ask how it is possible to accomplish these feats, and the answer is, by means of a mechanical painting machine, a device that represents the most important development ever made in the rapid application of paint.

The principle of atomization or spraying, has been known for many years and has been applied in various ways. One of the most interesting examples is that of spraying molten metals and producing a metallic coating. With a thin liquid the problem was comparatively easy, but with a viscous material like varnish, or one containing solid particles like paint, there arose difficulties. The painting machine, after much experimenting, has been brought through successive stages from a crude, imperfect tool to a simple, highly effective device, and is now cheap enough to be within the reach of any wide-awake painter.

Painting by the mechanical method can be done in a fraction of the time required for hand brushing, the paint is spread more uniformly, the coating is heavier and the work highly durable, provided properly chosen paints are used and surfaces suitably prepared. The industries have adopted mechanical painting to a very great extent, gas engines, motorcycles, tractors, automobiles, passenger coaches, locomotives, wicker furniture, metal office equipment, radiators and pianos being a few of the things finished in this way.

With this array of varied articles coated with the painting machine, how simple a matter it appears to paint a

barn or roof. Complete equipment is now available mounted on a motor truck so it is necessary only to drive up to the building, start the gas engine which operates the compressor and do the job. The cost for such work is far less than where hand work is done. In some localities, progressive painters operating these portable outfits have developed a profitable business, going from place to place painting



By the Mechanical Method, It Is a Matter of Minutes to Paint the Side of a House and There Is a Big Saving in Cost.



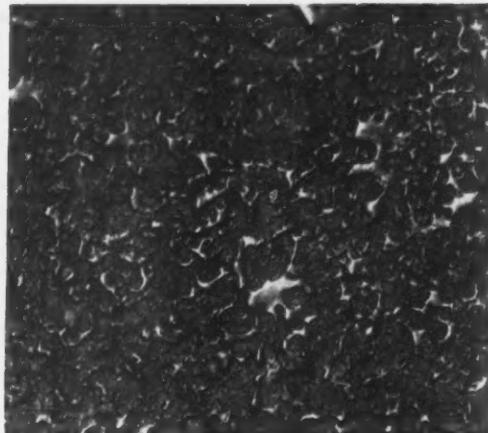
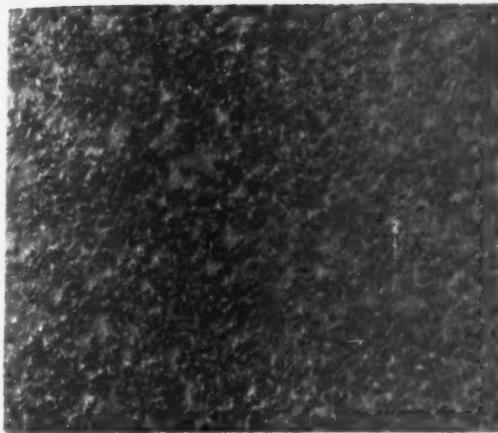
Large Roof Areas Can Be Quickly, Economically and Thoroughly Painted with Mechanical Equipment and Their Life Is Greatly Increased by Paint.

dwellings, barns and other buildings.

It is seldom that shingle roofs are painted because of the expense, but it is a serious matter to neglect them. Twenty years is about the life of the average shingle roof, yet this can be prolonged indefinitely by regular painting. Paint will greatly lower the fire hazard and reduce the insurance rate on shingle roofs, besides rendering protection against weather. The spray gun is well adapted to roof work because there is a wide expanse of surface, no sharp lines to be cut and the paint that should be used is thin in consistency, all combining to make an ideal spraying condition. Many attractive color combinations can be worked out between the roof and the body and trim colors of a residence, in place of the dark, weather-beaten, warped shingles so often seen.

A painter who has used the spray gun does not care to go back to the brush. It is unnecessary to bend over and fill his brush with paint from a pot. If he made this movement but once a minute, it would amount to five hundred times a day, and the resulting fatigue can easily be imagined. Again, there is no wrist movement back and forth. Every amateur painter can testify to the effort this involves. Think of what it means to be doing it day in and day out. Those who have painted ceilings know how exhausting is such labor. In contrast with this, we simply point the spray gun and pull the trigger. No wonder the spray painter has become an enthusiast.

It is not generally known that there is a very serious shortage



Interesting Wall Finishes Produced with a Spray Gun and Plastic Paint. A wide range of textures from a light sandpaper finish to a heavy stucco effect can be secured by this method.

of painters. One of the best posted men in the craft, a large employer, says there is work today for three times as many painters as are available, and that many painting jobs are turned down because there are no men to do them. It takes time to develop a good brush painter and so we cannot look for any immediate improvement in this situation. A natural consequence of this shortage of skilled workmen is that wages are high. The panacea for the condition is a greater use of the spray gun. With increased output per man, painting costs would be considerably lower, and countless surfaces would be saved which are now neglected.

Color Misting

Out of the utilitarian has come the beautiful—a really new idea in wall decoration. A new technique for producing strikingly beautiful wall effects was far from the minds of the inventors as they perfected paint spray machines. Yet we have found, in these novel and interesting machines, not only great economies in time and labor saving, but also a vista of unique and handsome interiors, the possibilities of which are bounded only by the limits of imagination.

Distinctive decorative treatments for the walls of homes, also hotels and office buildings, are easily obtained with the small interior decorating spray-painting outfit. No great amount of time, labor or material, and no great expenditure for equipment or for having work done is required. The labor of decorating is lessened by more than half by the use of the up-to-date equipment, which brings stippled effects, blends and spatter work within the reach of all.

The "baby" mechanical painting outfit includes an air-compressing unit and a spray-painting unit. The former includes an air compressor, a motor to drive it and an air tank with accessories; all mounted on a portable, rubber-tired frame. The size of the motor permits ordinary lamp socket connections. The spray-painting unit is made up of a paint container of sufficient size for ground-coat work, a smaller one for spray-spatter colors, a spray gun and the necessary hose.

This decorative work is accomplished by coating the surface to be decorated with the desired ground color. The consistency of the paint is such as to produce a good hiding coat. After application, this coat is allowed to dry. Then the harmonizing spatter colors are applied in the order desired. These may be put on one after another, as it is not necessary to allow drying time between color applications. By varying the consistency of these colored paints, from pasty to liquid form, a fine or a coarse spatter effect is made possible.

Since one does not have to wait until the first spatter coat dries before applying the next, there is opportunity to obtain different effects by using flat, semi-gloss, and gloss paints. By the use of gloss paints a blending effect is possible, while in the use of flat paints, the individual colors take on a decided

form and effect may be likened to oatmeal paper.

The effects to be secured by this technique are many and varied, and finishes suited to all rooms can be achieved. Uniformity of application is the element to be watched with greatest care. By no other methods is it possible to obtain the perfect blending which the spray equipment produces.

While many are familiar with stippling and blending, few indeed are acquainted with the harmonious and attractive finishes known as "spray

spatter work." This work is a combination of two, three or more colors misted or spattered on a solid background. These treatments, like the others, are attained by the use of an exceedingly low air pressure. Spray spatter combinations are limited only by the knowledge of color harmony, the decorative sense and the number of walls to be finished.

The small paint consumption, the speed with which decoration is applied, the wide number of colors that may be used and the fact that full advantage may be taken of gloss, semi-gloss and full finish paints in producing a delicacy of finish, together with the coarseness or fineness with which the misting can be done, are points that specially recommend this treatment to both owners and decorators. A sprayed finish appropriate for any room can be selected and all such finishes possess the sanitary and washable characteristics common to painted walls and so important in the home.



Stucco Mixed with Magnesium Chloride —Not Calcium Chloride

ON page 121 of the January issue, in the description of the home of Mr. Grinnell F. Oliver, Wheaton, Ill., an erroneous statement appeared in regard to the manner in which the stucco was mixed. This stucco was mixed veritably stated. The AMERICAN BUILDER hopes that none of its readers will be misled by the former statement which was discovered too late for correction in the January issue.



Forestry Films Released

TWO motion picture films have recently been completed and added to the list of films which can be obtained from the U. S. Department of Agriculture for educational purposes. Both of these films deal with the problem of timber supply.

"Pine—From Seed to Sawmill" tells of the service which the southern pine has rendered since the resources of the Lake states became depleted and sounds the warning of the rapid depletion of the southern pine area. This film is two reels in length.

"Pine for Profit" pictures the depletion of the forests of the South from the settlement of Jamestown in 1607 to the present day and the practicability and methods of reforestation. It also contains a warning against fire, the greatest menace to reforestation.

Both of these films were prepared by the Forest Service in co-operation with Georgia Forestry Association, the Florida Forestry Association, and the State Forestry Commission of Alabama.

Sheet Metal Details

Sheet 5—Methods of Flashing Around Roof Openings

EDITOR'S NOTE—This is the fifth of a series of articles, presenting authentic details for flashing and metal work problems in building. The drawings, presented on the opposite page, were prepared by the Copper and Brass Research Association, and may be applied in the use of all roofing metals.

The first of this series was published in the November issue

of the AMERICAN BUILDER. Readers will remember that the drawings are intended to show the details of construction for every trade involved and are suitable for use by the drafting room in designing details. The distortion of the drawings will be apparent at a glance, but this purposely has been done that the methods may be made more clear.

NOTES FOR DRAWINGS ON OPPOSITE PAGE

FIG. 25. The method of flashing a sheet metal ventilator set on a sloping shingle roof is shown in Fig. 25. The ventilator is fastened to the flashing by a soldered lap seam. This may be done either before or after the ventilator is set in place. The flashing when placed on the roof should lap the shingles on the sides and bottom from 6 to 8 inches and be formed over them. At the top of the flashing the shingles lap over the metal which should be carried up on the roof far enough so that the upper part of the sheet is covered by at least two thicknesses of shingles. The flashing is fastened to the roof sheathing by long brass woodscrews. Care should be taken not to split the shingles. The holes for these screws should be drilled, not punched, and the screws set through slotted brass washers. Only four screws are shown in the illustration, but if the ventilator is a large one more will be required. They should be spaced not over 12 inches apart. When completed the screw heads and washers should be well covered with solder. The lower edge of the flashing should be turned back on itself $\frac{1}{2}$ inch for stiffness. Attention is called to the matter of "guying" as described in Fig. 26.

Fig. 26. If the ventilator is placed on the ridge of the roof instead of the slope the detail shown in Fig. 26 is used. The method is similar to that described in Fig. 25 except that the flashing is entirely outside the shingles. In both cases Figs. 25 and 26 it is necessary, if the ventilator be a tall one, in order to avoid strain on the flashing connections, to steady the ventilator by rods or wires secured to the roof. These rods or wires are fastened to the ventilator as near the top as possible by brass collar and fastened to the roof by brass screw-eyes or a similar device. The flashing consists of a piece of sheet metal extending out on the roof about 8 inches on each side of the fastenings, and long enough to extend from the butts of the shingles next below up and under the shingles above as far as possible. The sheet is soldered to the shank of the fastening, or a thimble is fitted around the shank, soldered to the sheet, and filled with waterproofing compound. These screw-eyes can also be waterproofed as described in Fig. 28.

Fig. 27. When vent or other pipes come through a roof a detail as shown in Fig. 27 is used. The lower edge of the flashing should lap over the shingles not less than 4 inches, but the sides and top are placed under the shingles with a lap of about 6 inches over the copper. If the flashing is over 12 inches wide the lower edge should be turned back and under on itself $\frac{1}{2}$ inch. This stiffens the metal and prevents lifting by the wind. This flashing should be carried up to the top of the pipe and secured either by an iron cap screwed in place as shown in Fig. 29 or by a copper cap as shown in Fig. 30. (See description of these figures.) The flashing should be carried up above the top of the shingle course on which it rests and held in place by a row of copper nails along the upper edge.

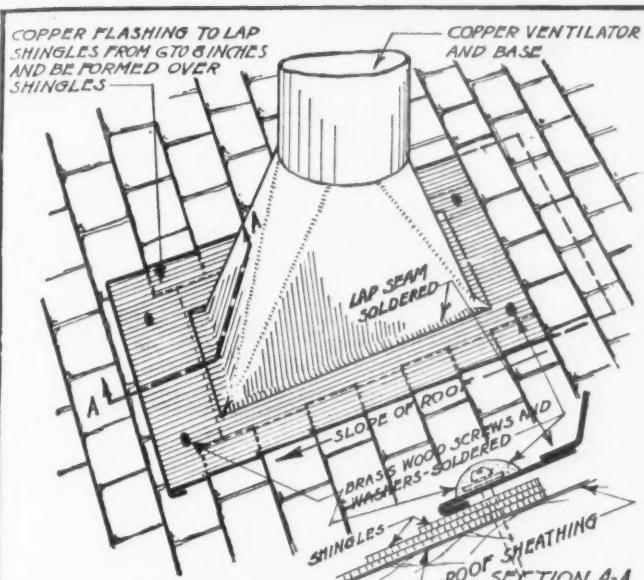
Fig. 28. Many instances occur where the roof is pierced by steel members such as the struts to hold a platform or some similar structure. Great care should be used at these places not only to make the point of penetration water

and damp-proof, but also to allow room for proper expansion and contraction for the steel member. For this purpose the detail shown here is recommended. The composition roof is laid in the usual manner close to the steel member and a copper collar is bent around the member conforming somewhat to the shape and extending out on the roof from 2 to 3 inches or more, if necessary. The ends of the collar are lapped and soldered and the pan is filled with pitch or other water-proofing compound. The part extending out on the roof is covered with two extra layers of fabric, the copper having been first carefully swabbed with pitch. Where a tile roof is used it is laid on top of the regular roof waterproofing. In some cases it will be found necessary to make the vertical and horizontal parts of this pan in two pieces. The joint between the two parts should be a soldered lap joint. When the penetrating member is large in proportion to the pan for holding the waterproofing compound the member, if of steel, should be heated with a torch to secure proper adhesion.

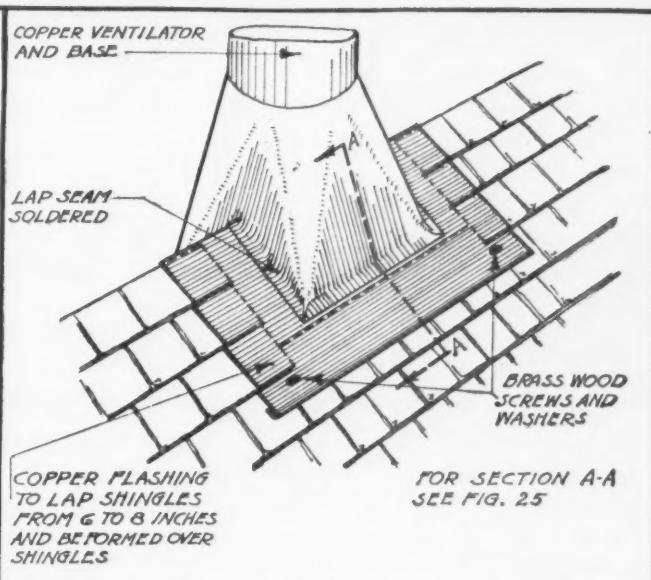
Fig. 29. There are two recognized methods of terminating the flashing when a vent-pipe comes through the roof. One method is shown in Fig. 29. The horizontal flashing is turned out over the roofing from 6 to 8 inches and turned up against the pipe enough to form a $\frac{1}{2}$ -inch lap seam with the vertical collar. A sheet is placed around the pipe and soldered to the horizontal sheet. Some roofers coat the outside of the pipe with white lead or asphaltum before placing the flashing. The flashing on the roof is covered by two additional layers of roofing and the top of the flashing on the pipe is held in place by a wrought-iron cap screwed on the top of the pipe and enclosing the end of the flashing. Before placing this lap the threads should be coated with white lead.

Fig. 30. Where cast-iron pipe is used the flashing is shown in Fig. 30. It may also be used for wrought-iron pipe. The roof and vertical portions are constructed as described in Fig. 29, but the top of the vertical portion is held in place by a copper cap forced down over the pipe and the flashing. This cap should be 6 inches high and should project into the interior of the pipe at least 2 inches. The vertical flashing should be carried high enough so that the cap will lap at least 4 inches.

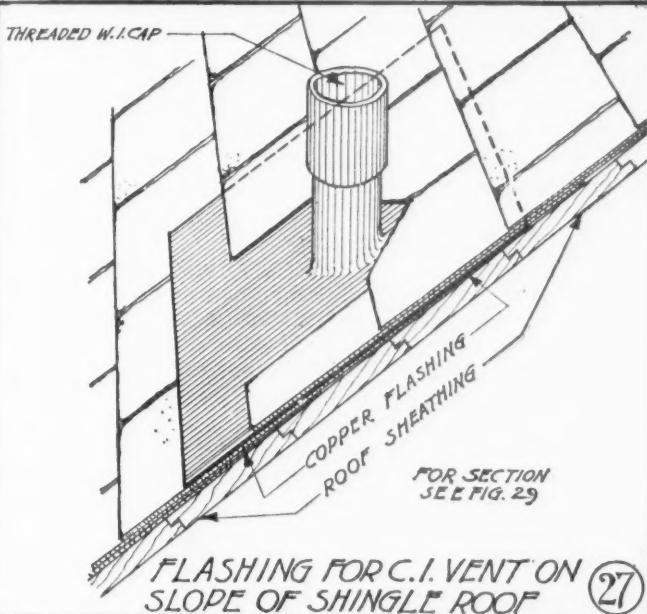
Fig. 31. When a flagpole extends up through the roof the flashing is shown in Fig. 31. The flashing is turned out on the roofing about 6 or 8 inches and turned up near the pole enough to allow a lap with the collar around the pole. This collar is to be lapped vertically and also over the base flashing and both laps well soldered. The collar and the flashing must be kept away from the pole to allow for its vibration. A flared collar-hood is then placed around the pole extending down so that it will lap the base flashing at least 3 inches. This hood is held by a brass band 1 inch wide set in white lead and securely bolted in place. The lower edge of this hood is turned back on itself $\frac{1}{2}$ inch for stiffness. With very tall poles it is usual to brace them from the roof by rods secured to a collar several feet up on the pole. The method of waterproofing the rods at the roof connection is similar to that described in Figs. 26 and 28.



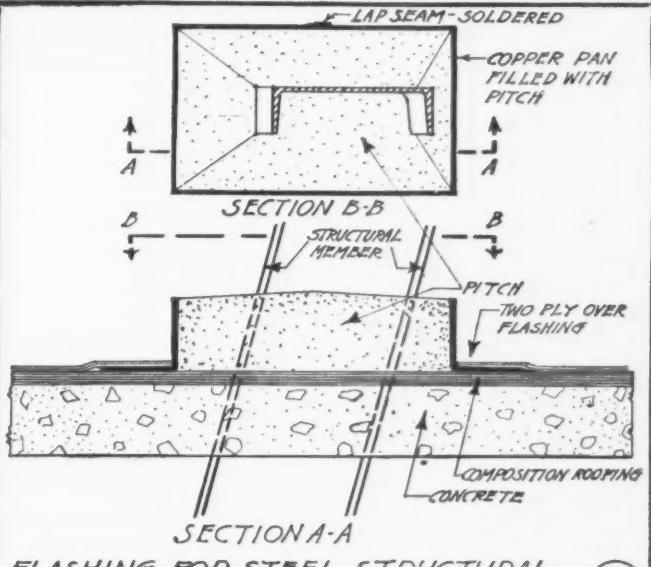
FLASHING FOR VENTILATOR ON SLOPE OF SHINGLE ROOF (25)



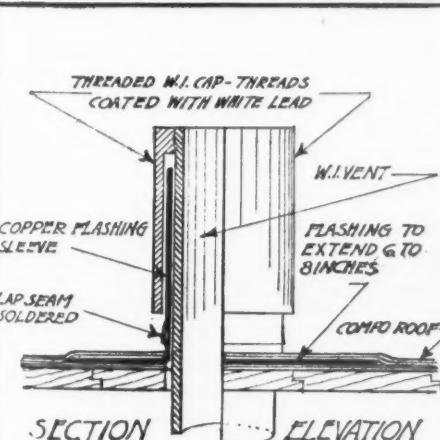
FLASHING FOR VENTILATOR ON RIDGE OF SHINGLE ROOF (26)



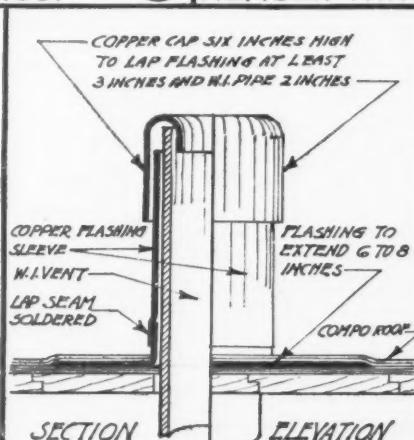
FLASHING FOR C.I. VENT ON SLOPE OF SHINGLE ROOF (27)



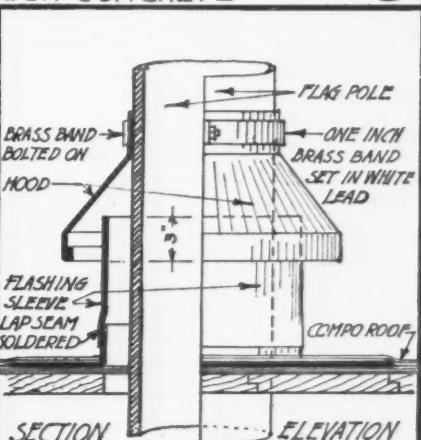
FLASHING FOR STEEL STRUCTURAL MEMBER THROUGH CONCRETE (28)



FLASHING FOR IRON VENT WITH SCREW CAP (29)



FLASHING FOR IRON VENT WITH COPPER CAP (30)



FLASHING FOR FLAG POLE (31)



HOW DAN DOES IT.

A Department for Passing "Life Savers" along to other Builders.

\$2 for an Idea

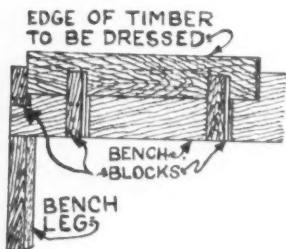
Dan is an ingenious cuss. Nothing ever stumps him. He always knows the way out when he runs into a tough problem out on the job or in the office. Dan is going to edit this Department and will pay \$2.00 each for every good idea he can use here to show and tell other builders "how to do it." Send him a rough sketch and a short description of what the tough job was and how you handled it.

Address Dan-Do-It, care of American Builder, 1827 Prairie Avenue, Chicago, Ill.

Aid When Dressing Boards

IT was necessary for one carpenter to dress the edges of some wide but thin boards, and, as he did not have the proper clamping fixture on his work bench, he experienced considerable trouble due to the fact that his bench stop would not hold a wide board on its edge so that he could dress it with ease. It was therefore necessary for him to have one man hold the board erect and steady while another used the plane.

To eliminate one "hand" and to do the work correctly and with ease he nailed some blocks to the side of his work bench, as shown in the sketch herewith, and placed the boards between the blocks and the side of the bench, as illustrated. The inside blocks should be fully as thick or thicker than the boards to be dressed.—BUNYAN KENNEDY, McCool, Minn.



Laying Off Foundations

THE old method of squaring a foundation with a chalk line and a ten-foot pole is a very slow way and sometimes an inaccurate way for several reasons. First, the wind may blow your line back and forth and give you a lot of trouble. After getting your measurements of six and eight on the line, the line will stretch and throw your measurements off and you will have to keep making measurements and shifting your line until you finally succeed.

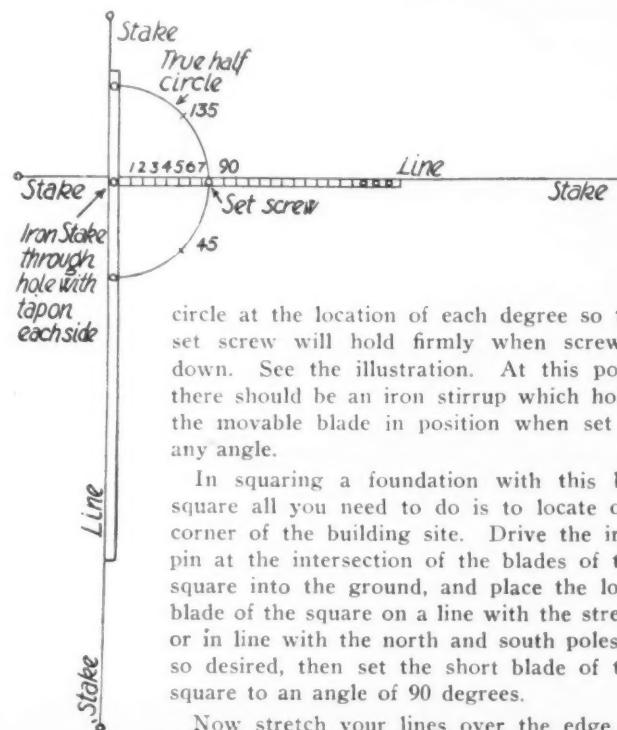
For years I have used a big wooden square made of one by fours for squaring foundations. This big square gave satisfaction for what it was made for, but I have lately improved it and I believe that other contractors and carpenters will be glad to know how it is made.

Any carpenter can make this big square. All the material he needs is a 1 by 4 by 12 and a 1 by 4 by 16, a half of a wagon tire and a bolt half inch by 10 or 14 inches long and two bolts three-eighths by one and a half inches. These two bolts are to be used to bolt the wagon tire to one of the one by fours as shown in the illustration. The

14-inch bolt is merely an iron stake with threads run down on one end about three inches, which passes through the two one by fours where they intersect. There are two taps on the threaded end of this stake, one on top of the upper one by four and one under the bottom one by four.

This bolt serves as a hinge on which either blade of the square may be made to turn and, at the same time, when driven into the earth, holds the corner of the square in the desired position. For further information see the illustration. The half circle, as shown in the figure, may be made of a wagon tire, but care must be taken that this half circle is absolutely true. There are 180 degrees in a half circle and it makes no difference what size the circle is.

After the half circle has been made the ends are twisted and bent at right angles to the rest of the circle. Next divide the half circle in 180 equal parts. These divisions will represent degrees, and a notch should be filed into this



circle at the location of each degree so the set screw will hold firmly when screwed down. See the illustration. At this point there should be an iron stirrup which holds the movable blade in position when set at any angle.

In squaring a foundation with this big square all you need to do is to locate one corner of the building site. Drive the iron pin at the intersection of the blades of the square into the ground, and place the long blade of the square on a line with the street, or in line with the north and south poles if so desired, then set the short blade of the square to an angle of 90 degrees.

Now stretch your lines over the edge of

each blade of the square and tie the ends to stakes, as shown in the detail. This will square one corner of the building, and if the building is to have no wings the other three corners will naturally be square if your measurements are correct. But if the building is to have either an "L" or a "T" you may square them also by moving the square to the location, laying the long blade on a line of the main wall and driving the stake at the desired point as explained above.

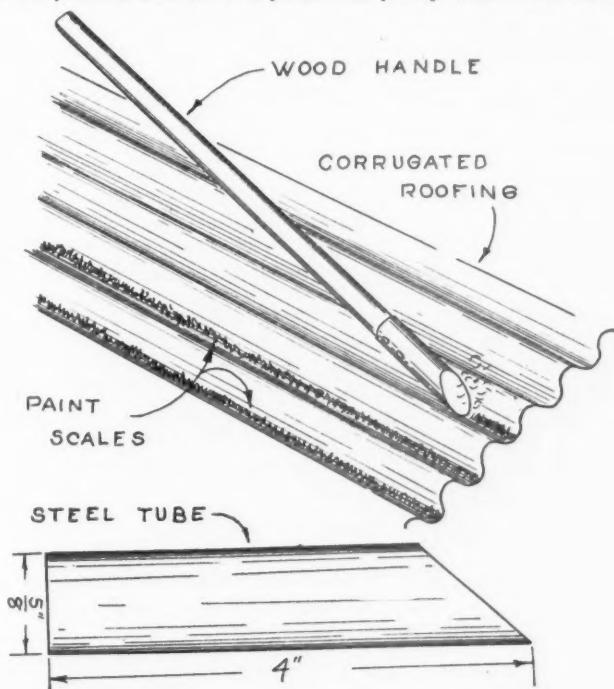
A contractor often has to put up buildings with sharp corners on account of the fact that the lot on which it is located is not square. Here is where this big square will be found handy again. In such cases all you will have to do in running your lines correctly is to set the big square to the correct angle and proceed as you would on a square building.

This big square may also be used as a compass in drawing circles a foot to 24 feet in diameter, as shown in the sketch. In drawing circles on the ground for silos, cisterns or for any other purpose, drive the iron stake at the corner of the square into the earth, then if you want to draw a circle 12 feet in diameter slip an iron pin through hole in the short blade of the square six feet from the corner, take hold of the end of the long blade and turn the whole thing around, allowing the pin to make a mark on the earth.—B. F. CLARK, Albuquerque, N. M.



Cleaning Corrugated Roofing

SOME time ago I was called upon to paint a corrugated iron roof. It had been a long time since the roof had been painted and the old paint was pretty well worn off by



This Scraper Is a Convenient Tool When It Comes to Cleaning a Corrugated Roof for Painting. It is easily and cheaply made and fills a need for which there is no similar tool available.

the weather except in the bottom of the corrugations. Here the paint was quite thick and dried hard. It was in the form of scales which curled up at the edges. I knew that it would not do to paint over these partly loose paint scales, so I tried to sweep them off with a broom, but they stuck too tight for this.

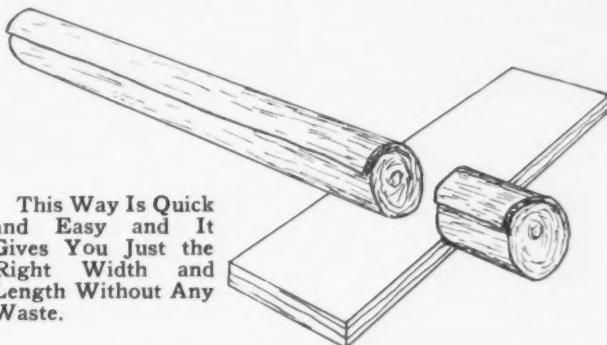
After thinking a while I made the simple tool shown in the sketch. It consists of a short piece of steel tubing secured to the end of a long handle. This was used as a scraper and did a perfect job of removing the scales. After scraping, the roof was swept to remove the loose scales.

The handle was long enough so that I could stand erect while using the scraper.—HAROLD JACKSON, Kankakee, Ill.



Cutting Strips of Paper

EVERY carpenter, some time in his experience, has had the job of cutting strips of paper to be put under the outside casings of window frames. There are various



methods in use, such as sawing and cutting with a knife. We have discovered a simple way of cutting these strips of paper that will not only save time but will make it possible to cut the exact number of strips at the right length, thus avoiding waste of material.

Assuming that we need 48 strips of paper four inches wide and five feet long, from a roll of paper 32 inches wide cut off six pieces of paper five feet long. Lay these sheets of paper on each other and roll them up into as small a roll as possible, then mark the roll into eight equal parts and with a hand axe cut the roll of paper into eight four-inch rolls.—H. H. SIEGEL, Emporia, Kan.



Repairing Decayed Posts

EVERY simple way to repair decayed fence posts, or any other kind of posts, is shown by the sketches. Fig. 1 shows a post which is almost rotted off. Instead of taking the post out and putting in a new post (which often means the taking down and rebuilding of the fence), dig the dirt out around the post about two feet deep, and fill this space with concrete, as shown by Fig. 2. The heavy dots, connected with irregular lines on each side of the post, indicate woven wire fencing, which reinforces the concrete.

This repairing can be done while the post is still answering the purpose for which it was put into the ground. The life of the post, after it has thus been repaired, will be longer, in most instances, than the life of a new post, and the expense will be much less.—H. SIEGELE, S. Emporia, Kan.

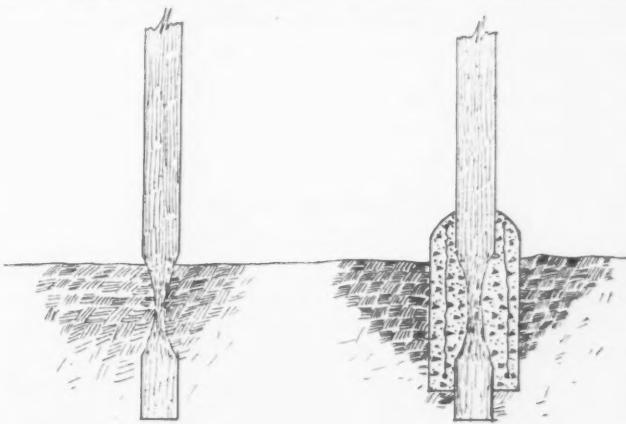


Fig. 1.

Fig. 2.

This Method of Repairing Fence Posts Not Only Saves Money and Effects a Permanent Repair, but Is One More Aid in the Very Important Matter of Conserving Our National Timber Supply by Securing the Longest Service from Wood Already in Use.



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Portable Electric Saw

PORTABLE saws, which can be easily transported to the job and moved about to any part of building under construction, are a great convenience and money saver for the builder. The saw shown in the illustration is of this type and has ample power and capacity for the heaviest work in the ordinary run of building operations.

It is operated by power from the electric lighting circuit, it being only necessary to plug in on an ordinary light socket, and it is light enough that it can be quickly and easily moved from floor to floor as the work progresses. In this way it saves the time of workmen in climbing up and down ladders or stairs, while saving hand work in all cutting and fitting operations.



For Remodeling Jobs This Saw Is Particularly Convenient as It Can Be Taken Right Into the House and Plugged Into a Light Socket.



Widest Rolling Steel Door

TO meet the need for an unusual width doorway, to admit cars at an angle to a building, where interior loading platforms left no room for sliding or swinging doors, the widest rolling steel door ever manufactured has recently been installed. The masonry opening is 45 feet wide and 17 feet high. The door is made of No. 16 gauge interlocking steel slats and weighs two tons.

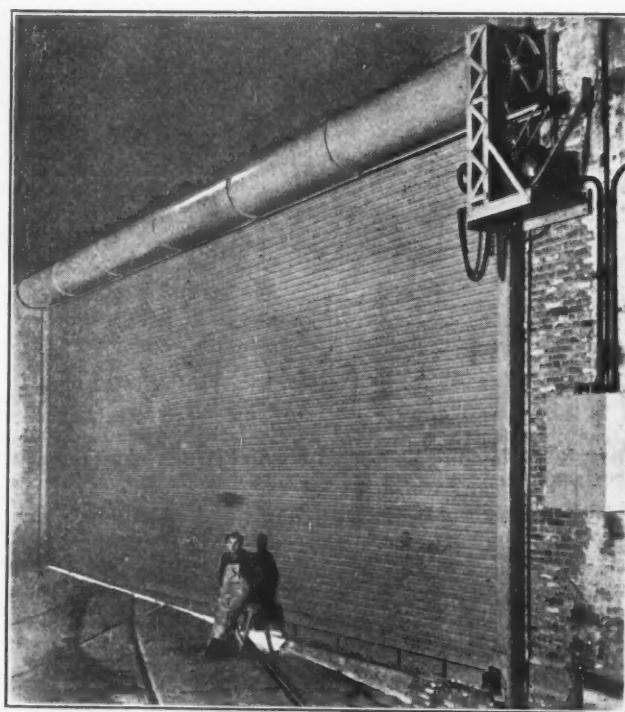
The overhead, horizontal shaft, which measures 47 feet between supporting brackets, has a deflection of less than one inch. Enclosed in the shaft are 12 heavy helical springs which counterbalance the weight of the door. The motor bracket is a self-contained unit driving the shaft with a $7\frac{1}{2}$ H. P. motor through a train of spur gears. Only three



The Widest Rolling Steel Door Ever Built Closes an Opening 45 Feet Wide and 17 Feet High and Can Be Opened or Closed in 30 Seconds.

horsepower is actually required to raise or lower the door due to the counterbalancing springs.

Operation is controlled by a set of push buttons and the door may be stopped in any position. It is automatically



When Opened the Door Is Completely Encased in the Housing Seen at the Top. The shaft encloses springs which counterbalance the weight of the door.

stopped at the top and bottom by a double set of limit switches. Quick stopping is accomplished by a combination of dynamic and solenoid brakes. A sprocket and hand chain operation is available for emergencies.

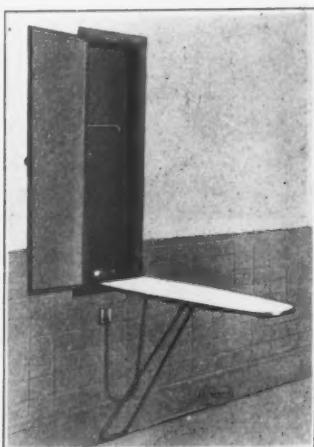
The roller door coils entirely overhead, above the lintel, and is enclosed in a 26-inch semi-circular sheet steel box or hood.

All Steel Ironing Board

SOMETHING new in the way of built-in home equipment is offered in the form of an all-steel ironing board which can be readily installed in any house under construction or already built. It is of a size, 14½ inches wide, to fit between standard studding without cutting. The opening is 54 inches high, 34 inches above the floor line.

The cabinet proper is of heavy gauge sheet steel finished with a flat coat of pearl gray enamel which is an ideal ground for any standard finish. The sheets are assembled by the welding process making a rigid and substantial job. The board is stamped from 20 gauge steel and is heavily reinforced and guaranteed not to warp. The folding leg, of a special design, forms a firm brace for the board and cannot get out of order.

The cabinet contains a raised platform for the iron when not in use and also a retainer rod which swings outward to serve as a towel or handkerchief rod.



All Steel Ironing Board.

Vertical Sliding Garage Door

WHEREVER garage space is limited a vertically sliding garage door will be especially appreciated. With this door the consideration of space for the door to swing outward or slide sideways is eliminated. When open it is entirely overhead in a horizontal position and out of the way with no danger of blowing shut. Even on a very narrow alley the garage may be built to the property line without making it necessary to even partially block the alley with an open door.



The Sliding Garage Door, Open and Closed.

Where space is not limited this door is a great convenience, as it is protected from weather when open, is always easily opened and gives an absolutely clear, unobstructed entrance. It is strongly built and easily installed, an average carpenter being able to do the job in about two hours' time. It is made in any desired size.

The door proper is made up of panels hinged together. A door eight feet or less high is made in four panels and the number is increased for greater heights. Rollers are attached at both ends of the panels and are held in position on steel tracks, on which the door operates overhead. The door is perfectly counterbalanced in all positions by two coil springs of uniform tension. When closed it rests flush on the floor and fits perfectly at sides, top and bottom, making it weatherproof.

Electric Door Opener

A electrically operated device is being manufactured which opens and closes heavy doors and gates, of both the sliding and swinging type, noiselessly and automatically.

This mechanism is operated by touching an electric button. It is intended for use in public garages and in banking institutions for opening and closing the gates to the safe deposit vaults and for large residences where the gates to the grounds are heavy.

The device is operated by a one-sixth horsepower motor which not only furnishes the driving force for opening the door, but also stops the door at the proper point. Therefore, it is impossible for the doors or gates to slam either in the opening or closing action.

The entire mechanism, with the exception of a small arm which fastens to a door of the sliding type, is concealed. The motor unit is concealed and protected in an easily accessible cast iron box installed just below the floor level.



This Is the Little Device Which Will Open or Close the Heaviest Door or Gate Merely by Pressing a Button.

Metal Basement Columns

ALL metal columns for basement posts are being marketed in stock lengths of six, six and a half and seven feet. Special lengths are cut to order. These columns are made of four and five-inch reclaimed pipe with a cast iron steel cap and base and are thoroughly painted at the factory. They come under approved code construction in all the leading cities and are considered superior construction everywhere.

Their greatest advantages lie in the fact that they are much more quickly erected than masonry pillars and also save valuable space in the basement.

New Idea in Mixing Boxes

A NEW steel mixing box, under which a fire is built to warm the mortar, is provided with a steel hod support which slides along the edge of the box wherever desired. It has also been used with a brick-walled fireplace upon which the mixing box rests like a stew pan. It is claimed that these steel mortar boxes will outlast dozens of wood boxes, at the same time giving greater utility, due to absence of knot holes, splitting and cracking.



Steel Mortar Box Has Special Advantages.

Every top edge of the steel box is reinforced with double steel flanges, affording an absolutely rigid construction all around, and also providing permanent handholds, only two men being required for easy handling. Although they are riveted throughout, there is not a rivet inside the box, and the smooth, one-piece metal bottom has no obstructions to catch cement or interfere with the mixing tools.

The boxes are made in three standard sizes. This same company also manufactures steel mortar boards under which a fire can be built for the same purpose.



Welded Plumbing Installation

A COMPARATIVELY new field for the employment of oxy-acetylene welding is of particular interest to anyone concerned with the construction of buildings. This is the installation of plumbing and heating pipes by means of welding. A number of advantages are claimed for this method and it has given entirely satisfactory results on a number of jobs where it has been used.

The claims are: That the welded joint gives increased strength because of the fact that metal is added instead of being removed, as is the case where threads are cut; it affords a tighter joint, as there are no crevices and the material at the joint is heavier than the rest of the pipe so longer lived under corrosion; the weight is reduced by the elimination of cast joint; appearance is improved and it is possible to apply insulating coverings smoothly; the cost is comparatively low because of time saved in installation and the elimination of any special castings.

In connection with the last item it is pointed out that when welding is used it is possible to make any fitting quickly, right on the job, and that when additions or repairs are required they are most simply effected.

The process is not yet thoroughly understood and many people have mistaken ideas about it. One of these is that when a branch is welded to a main line a hole is large enough to admit the branch and it is then welded in without knowing the amount of its inside projection and consequent obstruction of the main line. As a matter of fact, the branch is not inserted into the main line. It is shaped out to fit the



It Is When Making Connections Like This That the Advantages of Welded Plumbing Installation Are Most Apparent. These three joints would be both difficult and expensive if screw connections were used.

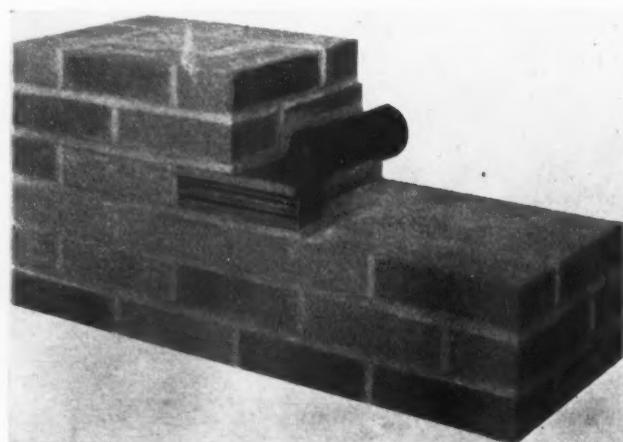
contour of the main line pipe and then butted up to it, and its circumference marked on the main line. A hole is then cut in the main line inside of the mark but equal to the inside diameter of the branch pipe. Both the hole and branch pipe are beveled, fitted and welded, giving the equivalent, so far as internal friction is concerned, of a cast fitting.



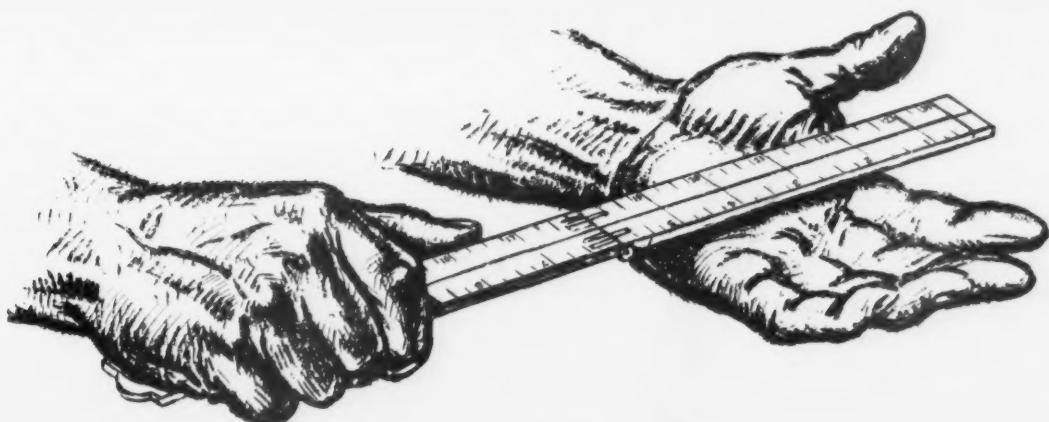
Metal Ventilating Brick

FOR the ventilation of kitchens, kitchenettes, pantries, bathrooms, closets, hung ceilings or any place where vertical vent shafts and bulky ventilators cannot be used or are undesirable, a new ventilating brick has been developed. This is a metal device of the size of an ordinary brick. It has a louvered face with a weatherstrip at the top, which is transformed to a three-inch diameter pipe at the inner end. It is laid in the wall in the place of a brick.

The ventilator measures 13 inches from the louvered face to the end of the three-inch pipe, but can be supplied in other lengths by special order. It is made of cast iron or bronze with a heavy galvanized iron flue. When installed it is placed in the masonry at a point six inches below the bottom of the ceiling beam with the louvered face at the outer surface and the round pipe in the room.



In Laying the Brick Wall This Metal Ventilating Brick Simply Replaces One of the Bricks in the Face of the Wall. It is neat and inconspicuous.



There is No Rule of Thumb

There is no ordinary builder's rule-of-thumb that you can use in the selection of wood finishes. You can't see knot holes in them as in a piece of lumber. You can't measure or weigh them like a piece of prepared roofing. You can't tell by the "feel" of a varnish how long it will wear.

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Magnetic Brad Set

A MAGNETIC brad set is a convenient tool for pattern makers, carpenters, cabinet makers, glaziers and anyone who needs to drive brads. The metal shaft is hollow and sliding and contains a magnetic rod. The brad is placed in the end of the set or, if one hand is engaged in holding a piece in place, the barrel is grasped between the first and second finger and pulled back until the magnet is exposed, when it will pick up the brad. The set is then placed against the point where the brad is to be driven and the brad pushed into place. No nailset is required, as this tool sets the brad far enough beneath the surface to cover with putty or wax.



It Enables You
to Pick Up, Place
and Set Brads
with One Hand,
Leaving the Other
Entirely Free.

Electric Steam Radiators

MODERN homes, all over the country, are rapidly being electrified. New appliances and fixtures are constantly being brought out and improved so that electricity can be applied to practically every feature of the home where light, heat or power is needed. It has long been felt that electricity would be ideal for general heating as well as for small, special heating appliances, and the development of this idea is being carried forward.

The electric steam radiator is an accomplished fact and can be obtained in a number of sizes for permanent installation on the floor or wall, or portable, to be moved from one place to another.

These units consist of a cast iron radiator fitted with extra size nipples at the bottom, into which the heating element is fitted. This element extends through the entire radiator, assuring even heat in every column. A three heat switch is made a part of each radiator. The heating element is enclosed in a seamless brass tube which protects it and provides a large radiating surface for heating the water which surrounds it.

When the electric connection has been made the radiator is supplied with water through a filler cup, in sufficient quantity to cover the heating element. One filling will last several months. No harm is done if the radiator is operated without water, but it is not recommended. Current is applied by turning the switch to "High," for bringing the water to the steaming point, after which it can be turned to "Medium" or "Low" to maintain heat with a reduced amount of current.



The Electric Steam Radiator
Marks a Forward Step in the Heating
of Homes and the Application
of Electricity to Home Requirements.

These radiators are also supplied with a thermostat having a range from 50 to 80 degrees. This gives an automatic control, insuring economy and uniform room temperature. In the matter of cost, the practicability of electrical heating has been greatly assisted in the last two years by reductions of rates for current and the increasing cost of fuels.

Portable Combination Woodworker

SINCE lumber stock is furnished in prepared widths and thicknesses the contractor and builder is required to do a deal of cutting and mitering, on the job, as quickly and accurately as possible. A machine which has been designed to supply most of the builder's needs in this line of work is available at a low cost and in a form which is readily moved from place to place.

This comprises a variety saw table complete in every respect. It has a tilting table, 30 by 36 inches, a pair of graduated miter guages, an adjustable rip fence, ripping as



Most of the Builders' Woodworking Needs, on the Job, Will Be Taken Care of by This Portable Combination Woodworker Which Is Available at Low Cost and Is Easily Moved from Place to Place.

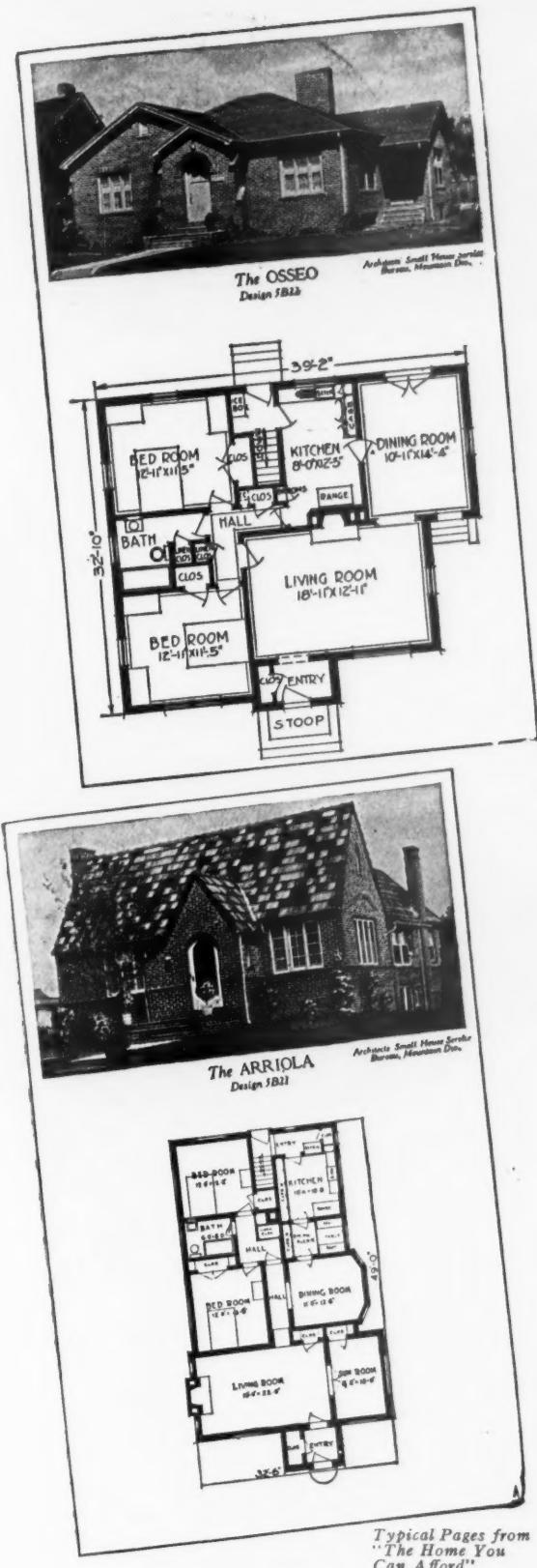
wide as 15 inches, a ball-bearing arbor and graduations under the table showing the angle of tilt. At the right-hand side a jointer is mounted. The jointer knives are of high speed steel, six inches long and mounted on a round safety cylinder. The jointer is also provided with an aluminum spring guard and can be started and stopped at will.

On the rear of the machine is mounted a two-horsepower motor, which drives both the saw bench and the jointer with one belt. The jointer is stopped by turning the hand wheel on the front, thus drawing the jointer pulley away from the belt. The saw bench runs all the time whether or not it is in use.

A curved splitter with an overhead cover guard is supplied with the saw bench. A three-wheel lift truck can be furnished. This truck has ball-bearing wheels and will lift the machine clear of the floor and permit it to be used anywhere. The equipment includes a pair of 12-inch saw blades, a rip and a cross-cut.

Largest Weatherstrip Contract

WHAT is claimed to be the largest weatherstripping contract ever made was recently placed by the Metropolitan Life Insurance Company for its new housing development in Long Island City, Astoria and Woodside, Long Island, N. Y. The Metropolitan Housing Development was fully described in the June, 1924, issue of the AMERICAN BUILDER. The contract secured by the Hoffbauer Company, Inc., New York City, for weatherstripping 14,000 windows, is being completed within a period of five weeks.



The Common Brick Manufacturers' Association of America 2131 Guarantee Title Building, Cleveland, Ohio

Further information from any of these branch organizations

California Common Brick Mfrs. Assn.,
342 Douglas Bldg., Los Angeles
811 Sharon Bldg., San Francisco

Chicago Brick Exchange,
614 Chamber of Commerce

Connecticut Brick Mfrs. Assn.,
226 Pearl St., Hartford, Conn.

Detroit Brick Mfrs. & Dealers Assn.,
404 Penobscot Bldg., Detroit

Louisiana-Mississippi Brick Mfrs. Assn.,
904 Carondelet Bldg., New Orleans

The Common Brick Mfrs. Assn. of Amer.,
Room 1710 Grand Central
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Pacific Northwest Brick Mfrs. Assn.,
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"Skintled Brick Work" (15 cts.)

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Address.....

New Adjustable Insert for Machine Mounting in Concrete

FOR the purpose of fastening machinery or other equipment to concrete floors, walls or ceilings without the disadvantages attending the use of bolts embedded directly in the concrete, a new adjustable bolt insert has been designed.

When bolts are embedded directly in the concrete, unless extreme care is exercised, they do not register correctly with the mounting bolt holes of the apparatus to be installed and hence the bolts have to be bent or forced into position, with a consequent mutilation of the threads, or the mounting bolt holes reamed.

The new insert permits an adjustment of the bolt position after the concrete has set and results in more satisfactory machine mounting. The adjustable insert consists of a cast-iron housing with a tapering body and containing a rotatable bolt carrier. The bolt carrier is T-slotted to take the head of a standard machine bolt and is of sufficient length to permit a $\frac{5}{8}$ -inch movement of the bolt from the center.

Since the carrier can be rotated, the adjustment of the position of the bolt can be secured in any direction. The housing and bolt carrier are provided with teeth which mesh and prevent any change in position after the adjustment has been made and before the bolt has been tightened. The teeth are kept in mesh by a retaining spring which is held in by a sheet metal plate at the back of the housing.

When the insert is to be installed, the form for the concrete is drilled at the point desired for the bolt. The insert is then fastened tightly to the form by a bolt run through the form and screwed into a nut placed in the T-slot of the bolt carrier. After the concrete has set for a suitable length of time, this bolt and nut are removed and a bolt of the proper length is placed in the bolt carrier which is rotated until the bolt is in the correct position to receive the base of the apparatus to be mounted. The nut is then tightened on the bolt and the location is fixed.

These inserts, which are available for $\frac{3}{8}$ or $\frac{1}{2}$ inch machine bolts, have great holding power when embedded in concrete, due to the fins and flange which are cast as an integral part of the housing. The holding power of the combination equals the ultimate strength of the bolt.



Electrical Outlet Frame

A N electrical outlet frame, just perfected, enables electrical mechanics to do a quicker, better and more lasting job of installing outlet boxes and saves contractors considerable time and money on all wiring jobs.

This frame is made of wood and consists of six pieces, two cleats for nailing to studs, two cross-pieces, plough-grooved, and two sliding uprights to hold laths and outlet boxes in place. Nails and screws are furnished with each frame.

With it an outlet box can be installed complete in 10 minutes or less. There is no measuring to be done and no metal clamps to get broken. Everything is handy, ready for use when needed, and when installed, frame and box are absolutely secure.

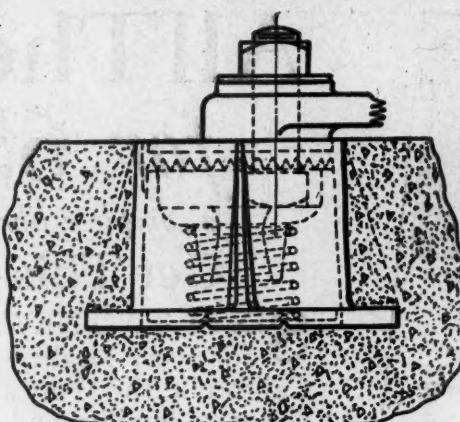
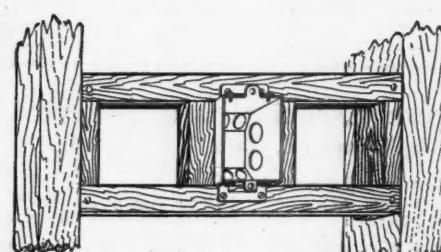


Diagram Showing the Insert Embedded in Concrete with the Bolt in Adjusted Position and Tightened Over Machine Base or Foot.



The New Adjustable Bolt Insert, Showing How the Bolt Is Placed in the Slot.

The frame can be used for ceilings, sidewalls, baseboards, or any other place where an outlet box is needed. The time it saves the contractor will more than pay for its cost.



Electric Power Eraser

COMBINING erasing and power elements in one unit, weighing less than two pounds, an electrical eraser for use of architects, draftsmen and others, with particular application to those associated in the building industry, has

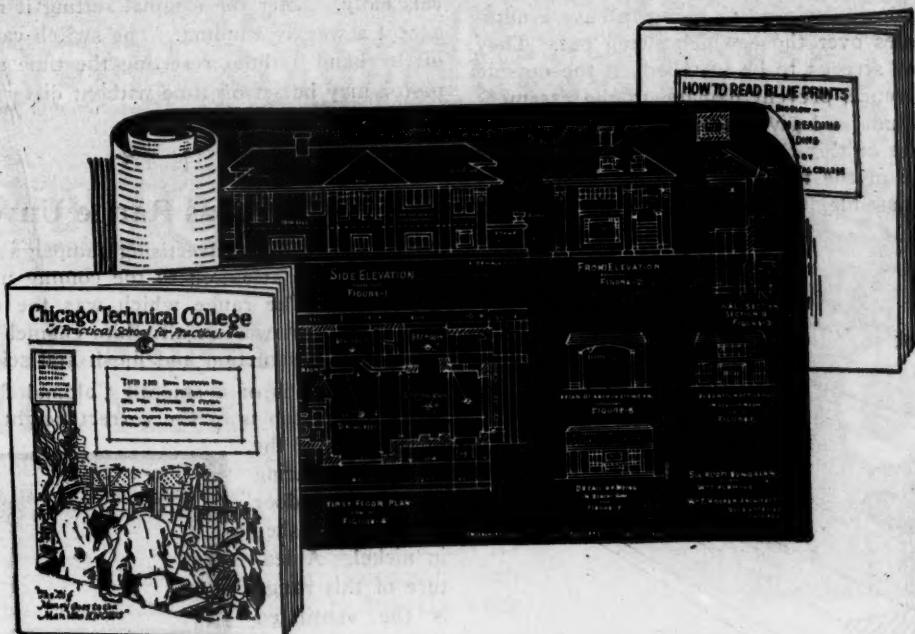


A Real Convenience, Where Much Erasing Is Necessary, Is This Light Weight Power Eraser Which Combines Erasing and Power Elements in One Unit.

recently been invented, and placed on the market. It is designed to eliminate objectionable features of cable machines, as the entire weight rests on the drawing surface.

The machine is so constructed that, with it, a mark as small as a period may easily be removed from paper without touching marks surrounding it. The machine is held at an angle of 45 degrees when in use. The revolving motor armature produces a gyroscopic action, which tends to hold the device at the correct operating angle without extra effort on the part of the user. Since the hand grasps the handle and the weight is on the drawing surface, it is necessary only to guide the device when operating it.

The one caution advanced by the maker of the machine is that an erasing shield should be used by a person operating the device for the first time and that the machine should be kept in motion. Only one hand is used for the operations, leaving the other hand free to handle other marks on the paper. Erasers are supplied in various qualities to be used in the machine.—R. G. THACKWELL.



SENT FREE

Mail the Coupon for These Two Books and Blue Print Plans

If you are in any building trade, we want to send you these 2 books and blue prints at our expense. One of these books contains a lesson in Plan Reading prepared by the Chicago Tech. experts; the other explains the Chicago Tech. method of training men by mail in the building trades for the jobs that pay the most money or for businesses of their own. All you have to do to get them is to mail the coupon. Don't send a penny.

Get the Knowledge That Will Make You Worth More Money

You may be as good a man as there is in the use of tools but as long as you remain a workman you won't earn more than the wage scale. It isn't manual skill that puts a man in big pay class—it's the ability to use his head that brings the fat pay check or enables him to "go in for himself." That has been proved over and over again by workmen who took the Chicago Tech. training in the higher branches of building and are now foremen, superintendents and contractors.

J. B. Woodside of Oklahoma was a carpenter working for \$6 a day when he took a course in training by mail at Chicago Technical College and was advanced to a foremanship in 2 months, became a superintendent 5 months later and then went into contracting.

Carl Testroat of Iowa is another man who got into a successful contracting business through his training, as did J. G. Hart of West Virginia, and C. W. Busch of Kansas.

CHICAGO TECHNICAL COLLEGE
Dept. 336, Chicago Tech. Building, 118 East 26th Street, Chicago, Ill.

Not only workmen have got ahead through this instruction but also contractors who were taking on small jobs because their experience was limited. Chicago Tech. has taught them how to handle the big jobs that pay the most money.

Train by Mail

Never before have there been such opportunities as there are right now for men with expert knowledge of building. You can get ready for these big opportunities if you will use some of your spare time to study at home under the direction of the Chicago Tech. experts. No time taken from your present work. All this will be explained when we send you the free books and blue prints.

Become a Building Expert

Plan Reading. Every man who has got very far ahead in any building trade can read blue prints. No man

can expect to be a first rate foreman or superintendent until he knows what every line on a plan means and how to lay out and direct work from the architect's plans. By the Chicago Tech. Method you quickly learn to read any plan as easily as you read these words.

Estimating. Of course a man who wants to be a contractor or to hold a big job in a contracting organization must know how to figure costs of labor, material, and everything else that goes into any kind of building. The Chicago Tech. course covers every detail of this important branch—shows you just how it is done from actual blue print plans.

Superintending. How to hire and direct men, how to keep track of every detail of construction as it goes on, how to get the work done in the least time at the lowest cost is also fully covered in the Chicago Tech. Builders' Course.

Also special courses in Architectural Drafting for builders, taught by practical men. These explained in Special Catalog "D" sent on request.

Mail This Coupon—Today

CHICAGO TECHNICAL COLLEGE,
Dept. 336, Chicago Tech. Bldg.,
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Please send me your Free Books and Blue Prints for men in the Building Trades. Send postpaid to my address below.
(Write or print name plainly.)

Name

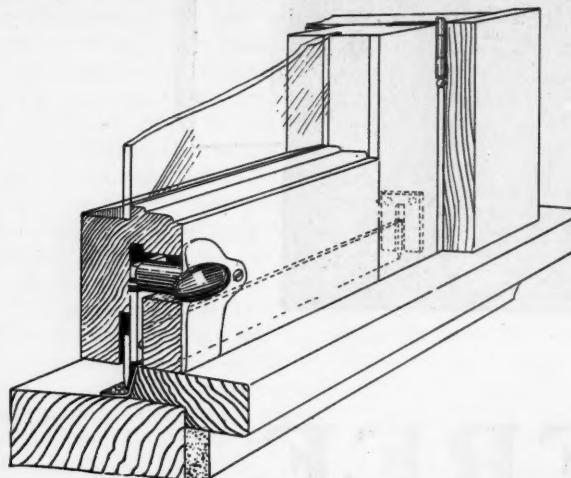
Address

City State

Occupation

Weatherstrips Inswing Casements

CASEMENT windows designed to swing in have a number of advantages over those which swing out. They allow storm sash or screens to be installed on the outside without any interference, prevent damage to the casement in case of heavy winds and give the full window area for ventilation. In spite of this they have never been entirely satisfactory because of the fact that in using them it was difficult, if not impossible, to eliminate leaky sills. This



The Simple Construction and Operation of This Weatherstrip for Inswing Casement Windows Is Shown in the Sectional View Above. Only the knob is visible in this installation.

disadvantage is overcome by a type of casement window hardware particularly designed to accomplish that purpose.

This appliance is a metal strip set into the bottom of the sash and operated up and down by means of a knob. As this brass strip slides down it forms a snug contact with a zinc strip along the sill, completely sealing the joint. At the same time it serves as a window lock. The appliance is controlled through an eccentric movement, with no springs, by a half turn of the knob. This appliance is simple and easily installed and is very durable.

Electric Timers and Clocks

TIME control of electrical circuits is rapidly attracting more and more attention, and being adapted to new uses. A line of automatic timers and clocks was originally designed to control the window lighting of stores where, because of the well-known advertising value of window display, the value of good lighting at regular times was well known. Other uses for these fixtures have become evident.

They are now used for the control of electrical appliances in homes and apartments, for street and park lighting, traffic signals, on the farm, for controlling water supply pumps and such equipment as separators, in stores for lighting by departments, for night lights in banks and similar institutions.

The timer simply turns "on" and "off" (or "off" only if desired) at any desired time. It is only necessary to set the painter and cock the switch. It operates once only within 12 hours after setting and must be set every day.



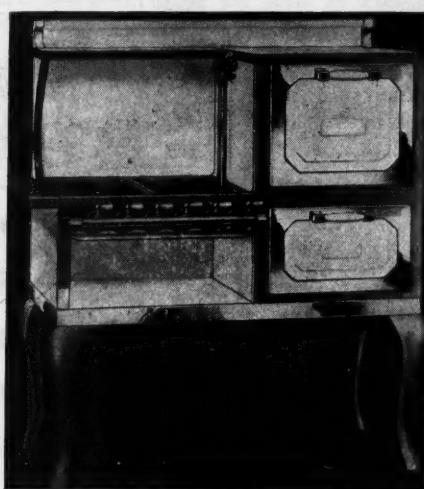
This Automatic Timer Will Control Any Electrical Circuit.

The clock is designed to control circuits at regular intervals daily. After the original setting it needs no attention except a weekly winding. The switch can be turned on or off by hand without resetting the time motor or the time motor may be set on time without disturbing the times set for operation.

New Gas Range Unveiled

RECENTLY an advertising campaign all over the country called attention to the coming unveiling of a new gas range. The range which was the object of a great deal of interest was an all white enamel model embodying beauty of construction and finish and scientific design.

This range is of a smooth Colonial flush finish design. The cooking top is of the correct height to save stooping in any part of the work of preparing a meal. The door frames are finished in nickel. A feature of this range is the ventilated oven and the oven control which give complete control of oven temperature at all times and, according to the manufacturer, increases oven efficiency 18 per cent, at the same time effecting a saving in fuel consumption.



An All-White Enamel Gas Range Which Features a Ventilated Oven and Oven Temperature Control.

Wood Preserving Stain

A PATENT, antiseptic compound with an attractive chestnut brown color is the most recent newcomer in the field of wood preservatives. It is an oily substance, containing no pigment, but staining the wood a rich brown. It will not peel, blister, scratch or wash off, and protects the wood against dampness, rot decay and fungus growth. The wood to be treated can be dipped or the liquid can be applied with a brush.

Its covering capacity is about 300 square feet per gallon, per coat, and three brush coats should usually be applied. It is always ready for use as it comes, except that in cold weather or where a surface will receive very hard wear it is better to apply the material hot. It soaks into the wood, destroys the albuminous matter which is the cause of rot and decay, and leaves the pores open.

This material has highly antiseptic and disinfecting properties, containing about 60 per cent crude carbolic acid. It can be easily applied to any woodwork and requires no special skill or knowledge, but the treatment should always be thorough. Three coats are applied at intervals of 24 to 48 hours. For interior work, to obtain a wax or dull gloss finish, each coat is rubbed down about one hour after application, with clean cheese cloth, until no more material rubs off. The surface to be treated should always be thoroughly clean and dry before the application is made. A silver brown effect can also be obtained for interior work by applying a light coat of white paint, following the three coats of preserver and rubbing off before the paint dries.

Floor Surfacing Jobs Insure Steady Income

KEEP THE MONEY ROLLING IN THE YEAR 'ROUND

The progressive contractor and builder has found a way to increase his yearly income by keeping busy all the year 'round. When building is at a standstill and there are no profits coming in, he makes \$25.00 to \$50.00 a day resurfacing old floors with the "American Universal" electrically driven floor surfacing machine. It does the work of six men and earns six men's pay.

Big Demand for This Class of Work

All new buildings have to have their floors surfaced and smoothed, and old worn floors should be resurfaced. It is a well known fact that there will be more new building done in 1925 than any previous year. This means more business and a big year for the contractor.

Work Easy to Get with an

American Universal
FLOOR SURFACING MACHINE

The beautiful smooth, uniform work which the "American Universal" floor surfacing machine turns out puts the most expert hand scraper's best efforts to shame. There is absolutely no comparison.

Who Stands a Better Chance Than You?

You know the owners of buildings and homes where floors require resurfacing. You are acquainted in your community and this will make it easier for you to land the contracts for resurfacing the great number of old floors in your locality which are in need of it (and badly so) right now.

An Investment Worth \$5,000 a Year to You

An "American Universal" floor surfacing machine is always a good investment. It will replace six men on your payroll during the building season—and turn loss into big profits during the dull seasons. One fair sized job pays for the machine.

Let Us Tell You How

Write today or fill out this coupon and we will furnish you with full information without any obligation on your part.

The American Floor Surfacing Machine Co.
515 South St. Clair Street : : Toledo, Ohio



MAIL COUPON TODAY

**The American Floor Surfacing Machine Co.,
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Please send me without any obligation on my part full information about the "American Universal" Floor Surfacing Machine.

- I am a building contractor.
 I am interested in becoming a floor surfacing contractor.

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INSTRUCTIONS IN ROOF FRAMING

Roof Framing Table (Continued)

By JOHN T. NEUFELD

FOR a detail explanation of the principles by which the rafters on a hip roof are figured, you should consult the lessons given in the AMERICAN BUILDER in the June, 1924, number. In this lesson we only intend to explain the tables as given herewith. The pitch of the roof is the same for a hip roof as for a gable roof. The pitch is always based on the slant of a common rafter and not on the hip rafter.

14. Length per foot run. This column gives the length of the hip rafter per foot run of common rafter, for each of the 48 pitches given in the table. For example: The length per foot run of a hip rafter for a one-third pitch or 8-inch rise per foot run of a common rafter is 18.76 inches. If you wish to find the length of a hip rafter for a one-third pitch given that the building is 16 feet wide, proceed as follows: For a 16-foot span the run is 8 feet. The length of hip rafter per foot run of common rafter is 18.76 inches. The total length of this rafter therefore is 18.76 times 8 equals 150.08 inches or 12 feet 6 $\frac{1}{16}$ inches.

15. Subtract for 1 $\frac{1}{8}$ -inch ridge. This column tells how much to deduct if a ridge board is used. For example, take the rafter figured in the previous problem. This rafter was 12 feet 6 $\frac{1}{16}$ inches. If a ridge board of 1 $\frac{1}{8}$ -inch thickness would be used, then we must deduct 1 $\frac{1}{4}$ inches (as given in this column) from the length of the rafter. This leaves the net length as 12 feet 4 $\frac{3}{16}$ inches.

16. Top and bottom cut by square. This column gives the number to be used on the square to obtain the top or plumb cut and seat or bottom cut. The first number, which is always 17, is taken as the base or run and the second number is the rise. The illustration No. 16 shows how the square is applied to the rafter for marking. Taking again the same pitch roof as figured in the previous problem, we find the numbers to be used on the square are 17 and 8. For the top cut mark along the arm of the square on which the 8 is taken and for the bottom cut mark along the arm of the square on which the 17 is taken.

17. Top cut by degrees. This column gives just another way of obtaining the top cut. At present tools are made which are marked off into degrees and if such tools are used the columns giving the bevels in degrees are very handy. There is less chance for error, if degrees are used. However, pitches of roofs are not generally given in degrees. The cut by degrees is illustrated in Fig. 17.

PITCH			HIP RAFTER											
1	2	3	14	15	16	17	18	19	20	21	22	23	24	
RISE PER FOOT RUN	RISE OVER SPAN	DE- GREES	LENGTH PER FOOT RUN	SUBTRACT FOR 1 $\frac{1}{8}$ " RIDGE SQUARE	TOP CUT BY DEGREES	TOP CUT BY DEGREES	BOTTOM CUT BY DEGREES	SIDE CUT BY SQUARE	SIDE CUT BY DEGREES	BOTTOM CUT BY SQUARE	BOTTOM CUT BY DEGREES	BOTTOM CUT BY SQUARE	PROP OF OF HIP WITHOUT BACKING	DISTANCE TO LINE OF BACKING
24	1	63° 26'	29.36	2"-	17-24	35° 20'	54° 40'	20 $\frac{1}{2}$ -12	30° 10'	12-15	50° 30'	1 1/8"	1 1/16	
23 $\frac{1}{2}$	17/16	63° 00'	28.99	1 1/8"-	17-23 $\frac{1}{2}$	35° 30'	54° 10'	"	30° 35'	"	50° 40'	1 1/16"	"	
23	23/24	62° 27'	28.55	1 13/16	17-23	36° 30'	53° 30'	20-12	31° 00'	11-15	50° 50'	1 1/16"	"	
22 $\frac{1}{2}$	15/16	61° 55'	28.18	"	17-22 $\frac{1}{2}$	36° 54'	53° 06'	"	31° 15'	"	51° 10'	"	5/8	
22	11/12	61° 23'	27.75	1 7/8	17-22	37° 42'	52° 18'	19 $\frac{1}{2}$ -12	31° 30'	11-14	51° 40'	1 1/16	5/8	
21 $\frac{1}{2}$	13/16	60° 50'	27.39	"	17-21 $\frac{1}{2}$	38° 17'	51° 43'	"	31° 50'	"	52° -	"	"	
21	7/8	60° 15'	26.98	1 13/16	17-21	39° 00'	51° 00'	19-12	32° 10'	11-14	52° 10'	1 -	"	
20 $\frac{1}{2}$	9/16	59° 40'	26.61	"	17-20 $\frac{1}{2}$	39° 37'	50° 23'	"	32° 30'	"	52° 25'	15/16	"	
20	5/8	59° 02'	26.21	1 3/4	17-20	40° 22'	49° 38'	18 $\frac{1}{2}$ -12	32° 56'	10-13	52° 40'	15/16	"	
19 $\frac{1}{2}$	13/16	58° 20'	25.85	"	17-19 $\frac{1}{2}$	41° 02'	48° 56'	18-12	33° 20'	"	53° -	7/8	"	
18	19/24	57° 44'	25.45	"	17-19	41° 49'	48° 11'	"	33° 49'	"	53° 20'	7/8	"	
18 $\frac{1}{2}$	37/48	57° 05'	25.10	1 1/16	17-18 $\frac{1}{2}$	42° 32'	47° 28'	17 $\frac{1}{2}$ -12	34° 10'	"	53° 35'	"	"	
18	3/4	56° 19'	24.72	1 11/16	17-18	43° 22'	46° 38'	"	34° 50'	9-12	53° 50'	"	9/16	
17 $\frac{1}{2}$	33/48	55° 50'	24.38	1 5/8	17-17 $\frac{1}{2}$	44° 06'	45° 54'	17-12	34° 55'	"	54° 10'	13/16	"	
17	17/24	54° 47'	24.00	1 5/8	17-17	45° 00'	45° 00'	24-17	35° 20'	17-24	54° 30'	13/16	"	
16 $\frac{1}{2}$	11/16	54° 00'	23.70	"	17-16 $\frac{1}{2}$	45° 48'	44° 12'	"	35° 40'	18 $\frac{1}{2}$ -24	55° -	3/4	"	
16	2/3	53° 08'	23.31	1 9/16	17-16	46° 45'	45° 15'	23-17	36° 00'	16-23	55° 30'	3/4	9/16	
15 $\frac{1}{2}$	31/48	52° 15'	22.98	"	17-15 $\frac{1}{2}$	47° 35'	42° 25'	"	36° 25'	15 $\frac{1}{2}$ -23	56° -	"	"	
15	9/8	51° 20'	22.64	"	17-15	48° 35'	41° 25'	"	36° 50'	15-22 $\frac{1}{2}$	56° 30'	"	1/2	
14 $\frac{1}{2}$	29/48	50° 20'	22.32	1 1/2	17-14 $\frac{1}{2}$	49° 29'	40° 31'	22-17	37° 15'	14 $\frac{1}{2}$ -22	57° -	11/16	"	
14	7/12	49° 24'	21.99	1 1/2	17-14	50° 32'	39° 28'	"	37° 42'	14-22	57° 30'	11/16	"	
13 $\frac{1}{2}$	9/16	48° 20'	21.69	1 7/16	17-13 $\frac{1}{2}$	51° 30'	38° 30'	"	38° -	13 $\frac{1}{2}$ -21 $\frac{1}{2}$	58° -	5/8	"	
13	13/24	47° 17'	21.37	1 7/16	17-13	52° 36'	37° 24'	21-17	38° 20'	13-21 $\frac{1}{2}$	58° 40'	5/8	"	
12 $\frac{1}{2}$	25/48	46° 41'	21.06	"	17-12 $\frac{1}{2}$	53° 37'	36° 23'	"	38° 45'	12-21	59° 20'	9/16	"	
12	1/2	45° 00'	20.78	1 3/8	17-12	54° 47'	35° 13'	"	39° 10'	12-21	60° 00'	9/16	"	
11 $\frac{1}{2}$	23/48	43° 58'	20.50	"	17-11 $\frac{1}{2}$	55° 52'	34° 08'	21-17	39° 35'	13-21 $\frac{1}{2}$	60° 45'	1/2	7/16	
11	11/24	42° 31'	20.22	"	17-11	57° 06'	32° 54'	20-17	40° -	11-20	61° 30'	1/2	7/16	
10 $\frac{1}{2}$	7/16	41° 10'	19.96	"	17-10 $\frac{1}{2}$	58° 15'	31° 45'	"	40° 25'	10-20	62° 20'	"	"	
10	5/12	39° 46'	19.69	1 5/16	17-10	59° 32'	30° 28'	"	40° 50'	10-19	63° 10'	"	3/8	
9 $\frac{1}{2}$	10/16	36° 20'	19.45	"	17-9 $\frac{1}{2}$	60° 46'	29° 14'	19-17	41° 10'	9 $\frac{1}{2}$ -19 $\frac{1}{2}$	64° -	7/16	"	
8	3/8	36° 52'	19.21	"	17-9	62° 06'	27° 54'	"	41° 30'	9 - 19	64° 50'	7/16	"	
8 $\frac{1}{2}$	17/48	35° 20'	18.98	"	17-8 $\frac{1}{2}$	63° 24'	26° 36'	"	41° 50'	8 $\frac{1}{2}$ -19	65° 50'	3/8	"	
8	1/3	33° 41'	18.76	1 1/4	17-8	64° 48'	25° 12'	"	42° 10'	8 - 19	67° -	3/8	"	
7 $\frac{1}{2}$	5/16	32° 00'	18.55	"	17-7 $\frac{1}{2}$	65° 54'	24° 6'	"	42° 25'	7 $\frac{1}{2}$ -16 $\frac{1}{2}$	68° -	5/16	"	
7	7/24	30° 15'	18.36	"	17-7	67° 47'	22° 23'	18-17	42° 40'	7 - 18	69° 10'	5/16	5/16	
6 $\frac{1}{2}$	13/24	28° 30'	18.17	"	17-6 $\frac{1}{2}$	69° 02'	20° 58'	"	43° 00'	6 $\frac{1}{2}$ -18	70° 20'	"	"	
6	1/4	26° 37'	18.00	1 3/16	17-6	70° 34'	19° 26'	"	43° 22'	6 - 18	71° 30'	1/4	1/4	
5 $\frac{1}{2}$	11/48	24° 40'	17.84	"	17-5 $\frac{1}{2}$	72° 03'	17° 57'	"	43° 35'	5 $\frac{1}{2}$ -18	72° 50'	"	"	
5	5/24	22° 37'	17.69	"	17-5	73° 35'	16° 25'	"	43° 50'	5 - 17 $\frac{1}{2}$	74° 10'	"	"	
4 $\frac{1}{2}$	3/16	20° 35'	17.56	"	17-4 $\frac{1}{2}$	74° 16'	15° 44'	"	44° -	4 $\frac{1}{2}$ -17 $\frac{1}{2}$	75° 30'	3/16	3/16	
4	1/6	18° 26'	17.43	"	17-4	76° 46'	13° 14'	17 $\frac{1}{2}$ -17	44° 10'	4 - 17 $\frac{1}{2}$	77° -	"	3/16	
3 $\frac{1}{2}$	7/16	16° 20'	17.35	"	17-3 $\frac{1}{2}$	78° 21'	11° 39'	"	44° 20'	3 $\frac{1}{2}$ -17 $\frac{1}{2}$	78° 30'	1/8	"	
3	1/8	14° 02'	17.23	1 1/8	17-3	80° 00'	10° 00'	"	44° 30'	3 - 17	80° 10'	1/8	2/16	
2 $\frac{1}{2}$	5/48	11° 50'	17.16	"	17-2 $\frac{1}{2}$	81° 05'	8° 55'	17 $\frac{1}{2}$ -17	44° 40'	2 - 17	81° 40'	"	1/13	
2	1/12	9° 28'	17.09	"	17-2	83° 17'	6° 43'	"	44° 50'	2 - 17	83° 20'	"	1/16	
1 $\frac{1}{2}$	1/16	7° 10'	17.04	"	17-1 $\frac{1}{2}$	84° 57'	5° 03'	17 $\frac{1}{2}$ -17	45° -	1 $\frac{1}{2}$ -17	85° -	1/16	"	
1	1/24	7° 48'	17.00	"	17-1	86° 38'	3° 22'	"	45° -	1 - 17	86° 40'	1/16	0	
0 $\frac{1}{2}$	1/48	2° 25'	16.98	"	17-1	88° 18'	1° 42'	"	45° -	1 - 17	88° 20'	"	"	



New Super-Size Shingles Make Wonderful Roofs

Barrett Giant Shingles! Here's an improved super-size shingle that never fails to please the most critical home owners.

Barrett Giants (12 x 14 inches) are thicker than ordinary shingles. On re-roofing jobs they can be laid right over the old roof.

More economical. With their 12-inch width—the maximum width that can be fastened satisfactorily with two nails—fewer Barrett Giants are needed per square. (The experience of roofers has proved that it costs almost 50% less to lay Giants than ordinary shingles.)

Mineral-Surfaced Shingles
(Green Red Blue-Black)
Everlastic Giant Shingles
Everlastic Single Shingles
Everlastic Multi-Shingles
Everlastic Octagonal Shingles

Roll Roofings
Everlastic Smooth-Surfaced
Everlastic Mineral-Surfaced
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THE BARRETT COMPANY, 40 RECTOR ST., NEW YORK

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Artistic. Barrett Giants are handsome. Surfaced with slate in fadeless colors—red, green and blue-black—they never need painting or staining.

Fire-safe. These shingles are fire-safe—proof against flying sparks and embers. That means lower insurance rates.

A Business-Building Book

"Better Homes from Old Houses" is packed with suggestions for remodeling old-fashioned houses. Send a copy to the people in your town who own old houses. And follow it up! Write for your free copy.

MAIL THIS COUPON TODAY

THE BARRETT COMPANY
40 Rector St., New York

Please send me free sample copy of your business-building book—"Better Homes from Old Houses." The address of my building supply dealer is given below.

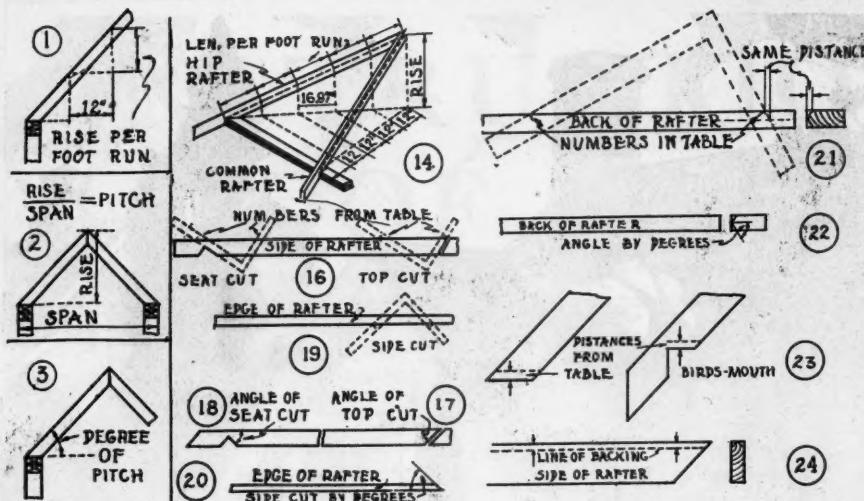
Your Name

Street Address

Town State

Your Dealer's Name

Dealer's Address



Explanation of the Various Cuts Listed in the Diagrammatic Chart Shown on Page 184.

18. Bottom cut by degrees. This column is similar to No. 17 except that it gives the bottom or seat cut of the rafters. It should be noted that if you add together the bevel given for the top and bottom cut in degrees you obtain 90 degrees in each case. Therefore, if you have either the top or bottom cut given in degrees you can obtain the other by subtracting from 90 degrees. For a one-third pitch roof, the top cut by degrees for the hip rafter will be 64 degrees and 48 minutes. The seat or bottom cut will be 25 degrees and 12 minutes.

19. Side cut by square. As the hip rafter also has a bevel cut at the top, this column gives the numbers to be used on the square to obtain this bevel as illustrated in Fig. 20. For a one-third pitch roof, the numbers used on the square to obtain the bevel are 79 and 17 marking along the arm of the square on which the 19 is taken. In all cases we mark on the arm of the square on which the larger number is taken when laying out the side cut. This column is based on the rule that the side cut of the hip rafter is obtained by taking the length of hip rafter per foot run on one arm of the square and the run of hip rafter per foot run of common rafter on the other arm of the square.

20. Side cut by degrees. This column gives the bevel of the side cut for the hip rafter by degrees. The angle is laid off on the back of the rafter. See Fig. 20.

21. Backing hip by square. Take the numbers given in this column and apply the square to the back of the hip rafter as in Fig. 21. The angle that the square makes with the edge of the rafter gives the angle of backing. The illustration shows how the distance is laid out on the side of the rafter.

22. Backing of hip by degrees. In this column the angle of backing for each pitch is given by degrees. Note that the angle is taken on a section straight across the rafter.

23. Vertical drop of hip if unbacked. Very often the hip rafter is not backed. In such cases the seat should be cut out further so that the rafter is lowered thereby bringing the edges of the hip rafter in the same plane with the common rafter. The distance to be lowered varies with the different pitches. This column gives the distance for each pitch. The dotted lines in Fig. 23 show where the cut should be made. Two kinds of rafter ends are shown.

24. Distance from edge to line of backing. The numbers in this column will simplify the method of obtaining the amount of backing. All that is needed in this case is to take the distance as given in this column for the desired pitch, and measure on the side of the rafter from the edge to the line of backing as shown in Fig. 24.

Problems

1. A hip roof is 20 feet wide and has one-half pitch; what is the length of the hip rafter if no ridge board is used (not including the tail end)?
2. What is the length of the rafter if a 1 1/8-inch ridge board is used?
3. What numbers on the square will give the top and bottom cut?
4. What is the angle of the top cut in degrees?
5. What is the angle of the seat cut in degrees?
6. What is the angle of the side cut in degrees?
7. What numbers on the square will lay out the side cut?
8. What is the angle of backing in degrees?
9. What is the vertical distance that the hip rafter should be lowered if it was left unbacked?
10. What is the distance from the edge of the rafter to the line of backing?

Answers

1. The length of hip per foot run of common is 20.78 inches. The length of hip rafter is 20.78 times 10 equals 207.8 inches equals 17 feet 3 1/16 inches.
2. The length of this hip rafter if a 1 1/8-inch ridge board is used is 17 feet 3 1/16 inches less 1 1/8 inches equals 17 feet 2 1/16 inches.
2. The numbers 17 and 12 will give the top and bottom cuts (marking along the 12 for the bottom cut).
4. The angle of the top cut is 54 degrees and 47 minutes.
5. The angle of the seat cut is 35 degrees and 13 minutes.
6. The angle of the side cut is 39 degrees and 10 minutes.
7. The side cut may be laid out using the numbers 21 and 17 (marking along the 21).
8. The angle of backing in degrees is 60 degrees.
9. The vertical distance that an unbacked hip rafter must be lowered is 1/16 inches.
10. The distance from the edge of rafter to the line of backing is 1/2 inch.



Longview Third in Building

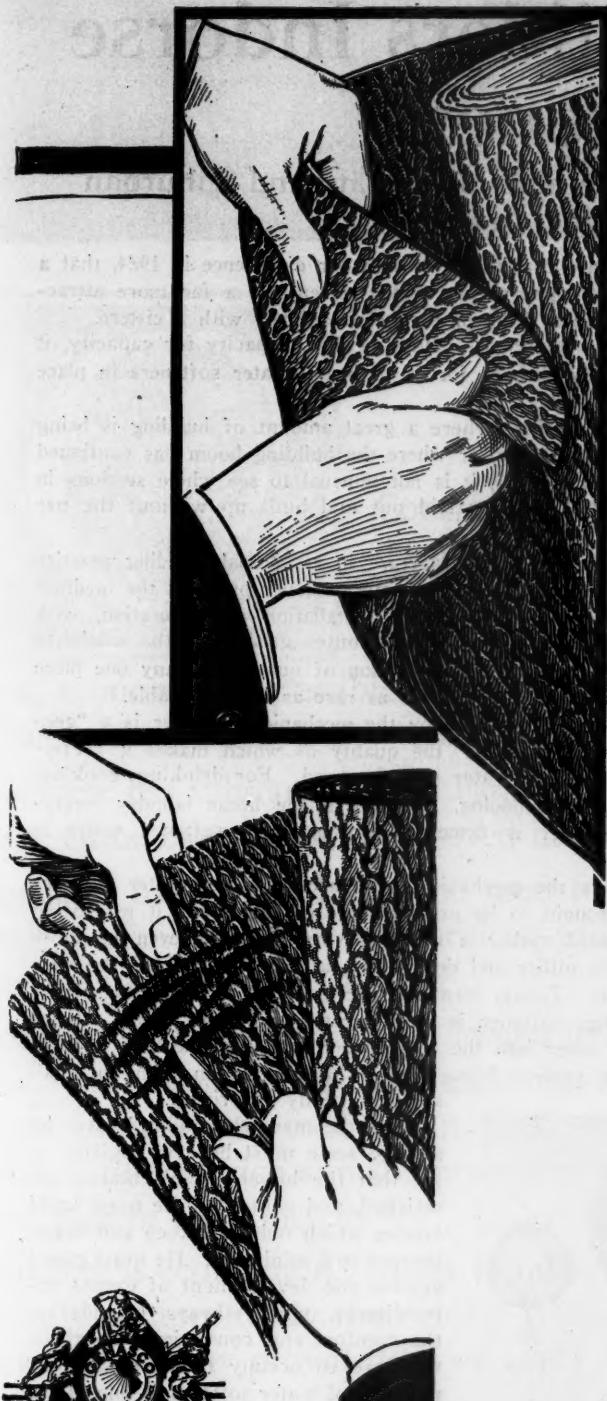
LONGVIEW, which is only a little over two years old, was the third city in the state of Washington and ranked ninth in the entire Pacific coast section in building activity for the month of January, according to building permit figures. A report issued by S. W. Straus & Co. places Seattle first in Washington with permits covering an estimated expenditure of \$2,715,790 for the month. Tacoma is second with \$1,007,650 and Longview third with \$285,478.

When taken in consideration that the estimated city and suburban population of Seattle is nearly 400,000 and Tacoma about 150,000 compared to slightly more than 6,000 in Longview, this city's showing is remarkable from a population standpoint. Population of Spokane, which ranks fourth with \$99,065, is 140,000, more than twenty times as great as the population of Longview.



Ajax Changes Name

ANNOUNCEMENT has just been made that the name of the Ajax Bracket and Outlet Company, manufacturers of metal sheathing and roofing brackets, has been changed to Ajax Building Bracket Company. The address of this company remains unchanged, its headquarters being at 1551 Rydal-Mount Road, Cleveland Heights, Ohio.



The Genasco Line includes asphaltic roofing, floorings, paints, and allied protective products. Write for illustrated folders.

You can prove the high quality of Genasco Roll Roofing

Take a strip of Genasco Roll Roofing. Bend it! Twist it! Try to pull it apart! You'll be astonished at its tough, pliable, rugged construction.

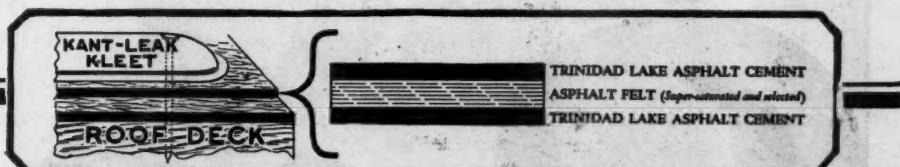
Then take a sharp knife and scratch the under surface. It is coated on both sides with Trinidad Lake Asphalt Cement—a feature that adds years to the life of your roof.

Experts are not required to make a quick, weather-tight job with Genasco Roll Roofing. The Kant-Leak Kleet, an exclusive GENASCO feature, insures its perfect application even by a novice.

Why use just "roofing" when you can obtain Genasco at ***no extra cost***? The Genasco Line provides you with a sturdy, dependable covering—roll or shingles—for any type of building. Write at once for illustrated booklets.

The Barber Asphalt Company PHILADELPHIA

New York Chicago Pittsburgh St. Louis
Kansas City San Francisco



Genasco ROLL ROOFING

Reg. U. S. Pat. Off.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Contractor and Builders Indorse Water Softeners

Great Help in Selling Houses, Says W. H. Scheiman of the City and Suburban Building Co., Ft. Wayne, Ind.

THE cistern is gradually being eliminated as the source of soft water supply in homes throughout the hard water regions of the country, and here's the reason. It costs too much, capacity for capacity, as compared with the mechanical water softener.

Hygiene cites the evil of this filthy, stagnant storage pool; medical authorities lambast its disease spreading agencies; chemists who have analyzed cistern water broadcast warnings from the house tops, but the contractors and builders of America, in full recognition and appreciation of the cistern's effect on health, have their own reasons for installing mechanical water softeners to provide soft water in homes they are building.

They see it now as a factor greatly increasing the salability of their homes. They have come to realize, too, that, capacity for capacity, the mechanical water softener is cheaper than a cistern.

No less an authority than W. H. Scheiman, general manager of the City and Suburban Building Company, of Fort Wayne, Indiana, one of the largest concerns of its kind in that section of the country, declares that the water softener opens up a new era of economy and efficiency in home building, from the standpoint of first cost as well as in consideration of the constant expense that always attends the construction of a cistern.

The building program of the City and Suburban company for 1925 contemplates the erection of at least 50 homes, and this number may be increased by 25 if conditions are at all favorable, Mr. Scheiman says. In this year's building campaign, he says, the City and Suburban Company will use more mechanical water softeners than ever before.

"We are convinced, through our experience in 1924, that a home equipped with a water softener is a far more attractive home to a buyer than one equipped with a cistern.

"Our cost records show us that, capacity for capacity, it is actually cheaper for us to install water softeners in place of cisterns."

In those cities where a great amount of building is being done at this time, or where the building boom has continued for several years, it is not unusual to see whole sections in residential districts laid out and built up without the use of a single cistern.

This rather new departure in residential building practice is self explanatory. The water softener provides the medium of combining economy of installation and operation, with service of quality and contributes greatly to the salability of homes. Such a combination of qualities in any one piece of household equipment is as rare as it is desirable.

The water provided by the mechanical softener is a "general purpose" water, the quality of which makes it preferable wherever water is to be used. For drinking, cooking, bathing, shampooing, shaving, in the home laundry, everywhere water is demanded, mechanically softened water is used.

Before the mechanical or "base-exchange" water softener was brought to its present stage of perfection, it was often considered rather a costly device, although even in those days its utility and desirability largely counteracted the item of cost. Today, however, the cost of the perfected base-exchange softener is on a parity with many other articles which enter into the construction and equipment of a thoroughly modern home, and its upkeep is an item so small as to be really surprising.

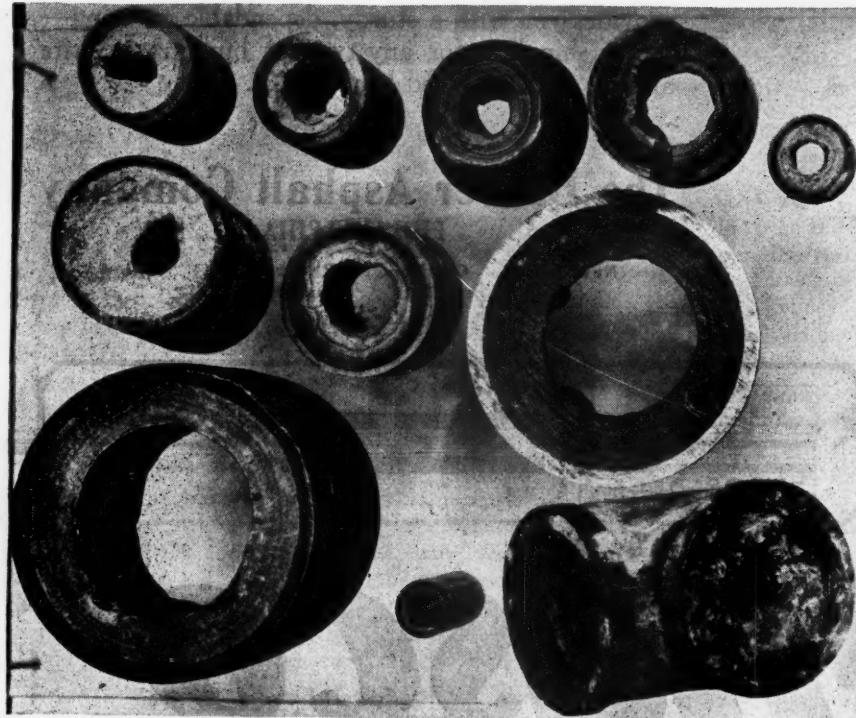
Since the man who builds houses on a large scale must be ever vigilant to see that the buyers of his homes are satisfied, and contented, he must build houses which reduce upkeep and maintenance to a minimum. He must guard against the development of excess expenditures, while always considering the comfort and convenience of those who are to occupy the homes. The mechanical water softener is one of the devices which admirably serve this end.

There are standards of construction to be upheld. There are standards of equipment to be borne in mind and adhered to, but the features that stamp the modern home as being especially desirable are the refinements here and there that distinguish it from the ordinary run of homes the world over.

Obviously, the builder who wishes to sell his houses rapidly, if he builds on a large scale, must cultivate and safeguard the satisfaction of his buyers. One disgruntled occupant of one of his homes can do much to destroy the salability of other houses he has built.

But consider the satisfied home owner. He is the symbol of a builder's success. He is the living, breathing,

(Continued to page 192.)



Here Is One Reason Why the Water Softener Is a Decided Advantage. The tremendous reduction of capacity, due to heavy scale deposits in these $\frac{1}{2}$ to 4-inch galvanized steel pipes could have been prevented by the use of a water softener.



ONCRETE MADE WITH ATLAS PORTLAND CEMENT IS THE COMPLETE ARCHITECTURAL MATERIAL

Concrete is "a new and more perfect tool, better balanced to the economics of our time than any other building material." Never before was the variety of form, enrichment in color, that architecture of past ages secured only through lavish expenditure, economically possible in today's construction. Concrete, made with Atlas Portland Cement, now opens a new era of architectural achievement.

Concrete has substance. The Panama Canal, the tunnels, bridges and skyscrapers of our large cities, have tested and proved its strength. No other material can take its place.

Concrete has form. It can be used for simple foundations and walls, or it can shape itself to elaborate columns, cornices, and even complete sculptural masterpieces, like the Fountain of Time, in Chicago.

Concrete now has color. No longer need fading and impermanent surface colorings be recurrently replaced. For by using naturally colored sands and stones with Atlas, either in its normal gray tone or in pure white, any range of color can be secured, from delicate tints to rich and sumptuous tones. And such color is an integral and permanent part of the concrete.

Concrete is economical. Atlas improvements in manufacture make Portland Cement actually cheaper today than thirty years ago, adding, to concrete's complete structural service, economy provided by no other material.

The architect, the contractor, the home builder, have now available in Atlas Portland Cement the complete architectural medium—permanent, adaptable, beautiful and economical, "the Standard by which all other makes are measured."

Between the Atlas plants and the user there is but one distributor—the building material dealer—who brings Atlas to the public cheaper than by any other method. Any architect, contractor or prospective builder is invited to write this Company regarding the possibilities of concrete, made with Atlas.



Atlas
Portland Cement

The ATLAS PORTLAND CEMENT Company

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Atlas White
Portland Cement

talking (especially talking), advertisement of the builder's wares. He is the man who spreads the good word to his friends that So-and-So is a mighty fine builder and is a good man to deal with.

The builder who aims at success must shoot at something approaching the ideal. This, in fact, is the age of "ideal homes." In every section of the country where there are progressive, wide-awake builders who always keep their weather eye open for devices which will improve their homes, these "ideal homes" are springing up. They embody all the desirable features of a comfortably luxurious home, while still being within the reach of the average man.

In Cedar Rapids, Iowa, for instance, there has recently been completed what is called the "Ideal Electric Home." It has been built and equipped on a co-operative basis, various contractors and merchants taking part in its construction and equipment.

Of course this ideal home contains a water softener, for the mechanical softener is admittedly ideal equipment for any home. When ideal equipment goes hand in hand with economy, it becomes something greatly to be desired.

Today, as never before in our history, the American public is coming to a realization of the importance of its water supply. Extensive research work is being done all over the country with regard to water purification and allied subjects. In some sections of the country where cisterns are used—and in 65 per cent of the territory of the United States cisterns provide the only source of soft water—there is legislation directed toward safeguarding the users of cistern water from possible disease through contamination of the cistern water.

In apartment houses, where provision of soft water has long been a troublesome item, the mechanical water softener steps into the breach just as if it has been especially designed to solve the problems of the apartment house builder. It is the only possible way to provide a constant supply of soft water in an apartment house.

So varied are the types and sizes of water softeners available today that the smallest homes as well as the largest apartment houses, not to mention great industrial establishment, large hotels, laundries, public institutions and extensive textile mills, may find water softeners to suit their needs.

How to Select the Right Kind of Plumbing Fixtures

By KARL WILLIAM ZOELLER

Author of "Merchandising the Plumbing Business."

IT may occur to our readers that it is not necessary to know "How to select the right kind of plumbing fixtures," provided one has the price.

But when you stop to consider that 50 per cent and often more of the total plumbing investment is hidden under floors, between the walls or buried in the ground, it immediately is apparent that great care should be exercised in purchases of plumbing supplies.

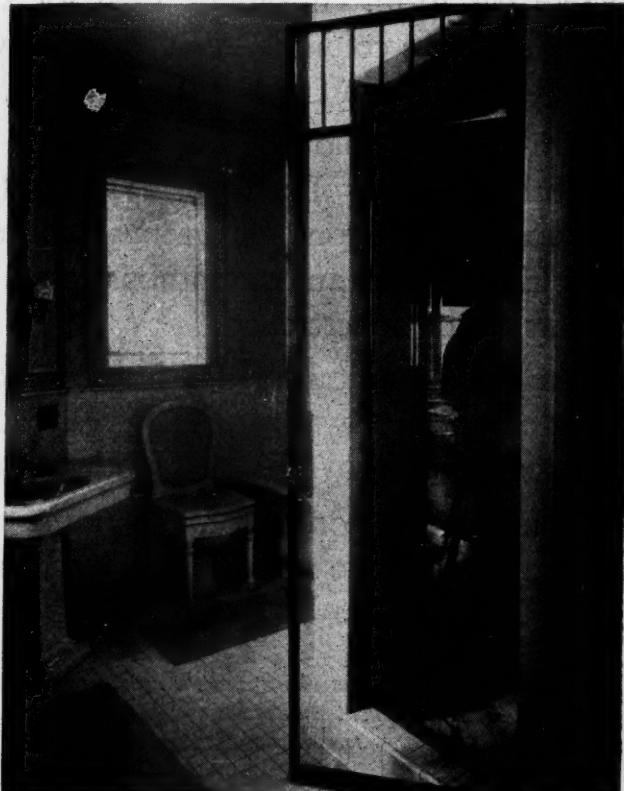
One bad spot in plumbing installation can easily run up a larger repair bill than the total cost of the whole plumbing job. For that reason the science of Sanitary Engineering as the modern plumber designates his work, is regulated by state and city laws and regulations. Codes, they are called, and are created for the health and welfare of the public.

The plumber has been much maligned in the past for his bad business practices; almost every joke paper has carried stories of the plumber going back to his shop for tools. But the truth of the matter is quite the contrary; the general public have so little knowledge of the details or functions of sanitary work that the plumber is ordered to do a job quite different from that which he finds necessary when he arrives on the scene.

It will also become apparent to builders that it is quite as important to let the plumbing job to a competent plumbing contractor as it is to buy the right kind of fixtures and supplies.

To visualize the innumerable details of what is required to complete a proper plumbing installation would require more space than we have in these articles; but briefly we can enumerate some of the most essential.

Soil pipe to carry off the waste is first, then there are the water supply lines leading into the house; it requires a careful judgment to know the correct size of these in order to insure an even pressure all through the building. We all probably have had experience in the old house where it was impossible to get water when someone downstairs was using it. That fault is eliminated by the correct installation at the time the house is built.



Showers in Separate Cabinets Are a Convenience, the Value of Which Is Readily Apparent, but a Wall Cabinet Through Which the Plumber Can Make Adjustments in the Tub or Shower Connections Is Equally Valuable.

Then there's the matter of risers; it is of the utmost importance that they are correctly sized and properly located to function properly. Faucets, valves and cocks come next; here is a much discussed subject—you'll find these articles offered at a wide range in price, but we

believe you will agree with us that in as important an item as this, only the best is cheap.

Many of the valve manufacturers are now telling their story in the public prints and builders can get a good idea of their comparative values by reading these advertisements.

Vents are important from a health angle and it is a fine point of plumbing engineering to handle this detail correctly. It is through the vents that the gases and odors escape.

There is usually a cabinet placed, either in the bathroom wall or just outside, through which the plumber may easily make adjustments in case of trouble to the bath tub or shower bath connections.

In one of the preceding articles we have spoken of hot water heaters, which are the source of much comfort and convenience to the household. The fixtures have all been described in our second article. We said of them that it is not difficult to buy good looking fixtures because you can see your purchases, but it is to the hidden supplies that contractors should give careful attention.

The good work of the Copper and Brass Association is a big help to contractors in educating the public to the merits of brass pipe throughout the house. This is a definite example of selling the public the best equipment on the basis that it is the cheapest in the end.

In offering plumbing contracts, builders should select with care progressive plumbers, men who by the character of their work, the appearance of their shops and their standing in the community, indicate that they have the necessary ability to install your plumbing on such a basis that it will be a credit to your new building.

Many of the modern contracting plumbers have displays of plumbing merchandise and the builder may see the complete plumbing layout before deciding. In some communities it is necessary to do business through the plumbing jobber, because he has the only display. But we close our articles with the admonition—be sure that the plumbing contractor is a responsible one. And when you do this, you'll find that even if it costs a trifle more, it is cheaper in the end.



The Right Kind of Fixtures for the Bathroom Mean Comfort for the Home, but These Fixtures Should Be Backed Up by Quality in the Hidden Plumbing Which Supplements Them or It Will Be a Source of Future Trouble and Expense.

NEWS of the FIELD



Architectural Competition Announced

A N architectural competition, with cash prizes amounting to \$3,200, has been inaugurated by the United States Gypsum Company, to be conducted under the auspices of the American Institute of Architects.

This competition is for the four best house designs in each of two classes, for houses to be built of Structolite fireproof construction. One set of prizes is for the winning five-room bungalow designs; the other for the winning six-room, two-story dwelling designs.

There are two first prizes of \$500 each, two second prizes of \$300 each, two third prizes of \$200 each, two fourth prizes of \$100 each and twenty prizes of \$50 each for honorable mention. The purpose of the competition is to acquaint architects with the merits of Structolite as a fireproof building material in the construction of small as well as large buildings. The competition closes April 15.

Full details may be secured by writing the United States Gypsum Company, Fireproofing Division, 205 West Monroe Street, Chicago.

Formally Open New Plant

A FORMAL opening of the new plant of the American Flor Surfacing Machine Company, 508-542 S. St. Clair Street, Toledo, Ohio, was held on Saturday, February 21, from one to four in the afternoon. Invitations were issued and many people showed their interest by attending the opening and inspecting the company's new equipment.

National Plans New Plant

P LANS have just been completed for an addition to the plant of the National Manufacturing Company, Sterling, Ill., to take care of the rapidly increasing demand for National hardware. This addition will be a five-story reinforced concrete building, 110 by 120 feet, adjoining the main factory and will be faced with brick to conform with the rest of the plant. It will be used both for manufacturing and warehouse purposes and will permit about 50 per cent increase in working equipment.

The new structure will be a model of industrial construction. The floors will be of concrete slabs and the stairs will be of iron or iron and concrete. Every precaution will be taken to make a complete fireproof building, including a sprinkling system. Windows will extend the full length of each story,

making it a daylight factory. Work will be begun as soon as the ground is clear and the weather permits, probably about the first of April.



General Fireproofing Convention

THE Ninth Annual Convention of The General Fireproofing Company was held February 12, 13 and 14, and was attended by dealers and salesmen from all parts of the United States. New products and methods of building construction were discussed during the three day session and the visitors were entertained each evening by special programs.

Mr. Foster, president of the company, was unable to be present, and the convention was formally opened by Mr. S. S. French, vice-president and general manager.

Mr. French spoke on "Our Facilities," in which he included not only machinery in the plant, but also ideas, plans and co-operation of the entire organization.

Speaking of prices, he predicted a general downward trend for the next five years. This country, he stated, is in a prosperous condition, growing rapidly, expanding in a business way and increasing in population. Many new homes are being built and there should be no let-up in building operations. He could see no depression for the next five years, despite the present high wages.

Other speakers were, W. B. Turner, sales manager; Commissioner Wharton Clay; R. S. Gildart, advertising manager; O. W. Chaffee, credit manager; F. M. Russell, traffic manager; H. I. Glazier, assistant sales manager; John Travers, manager of the waterproofing service department; D. M. Strickland, manager of the American Rolling Mill Co.; Charles Johnston, district manager; J. P. Stalker, manager of the engineering and service department.

New Awning Patterns

THE demand for awnings today calls for something "different" and out of the ordinary and manufacturers are producing new patterns to meet this demand. The 1925 sample book, just issued by John Boyle & Co., Inc., of New York and St. Louis, shows many brilliant effects in both woven and painted fabrics, which will undoubtedly interest the householder. For instance, canary yellow is very effectively interwoven with green and white, and another unusual effect is made up of coffee brown interwoven with white and embellished with fine, brilliant red lines.



W. M. Simpson Lumber Co. Moves Office

ON February 14, 1925, the W. M. Simpson Lumber Company moved its general offices for its sixteen yards, and also the wholesale office, from Indianapolis, Ind., to Paris, Ill.



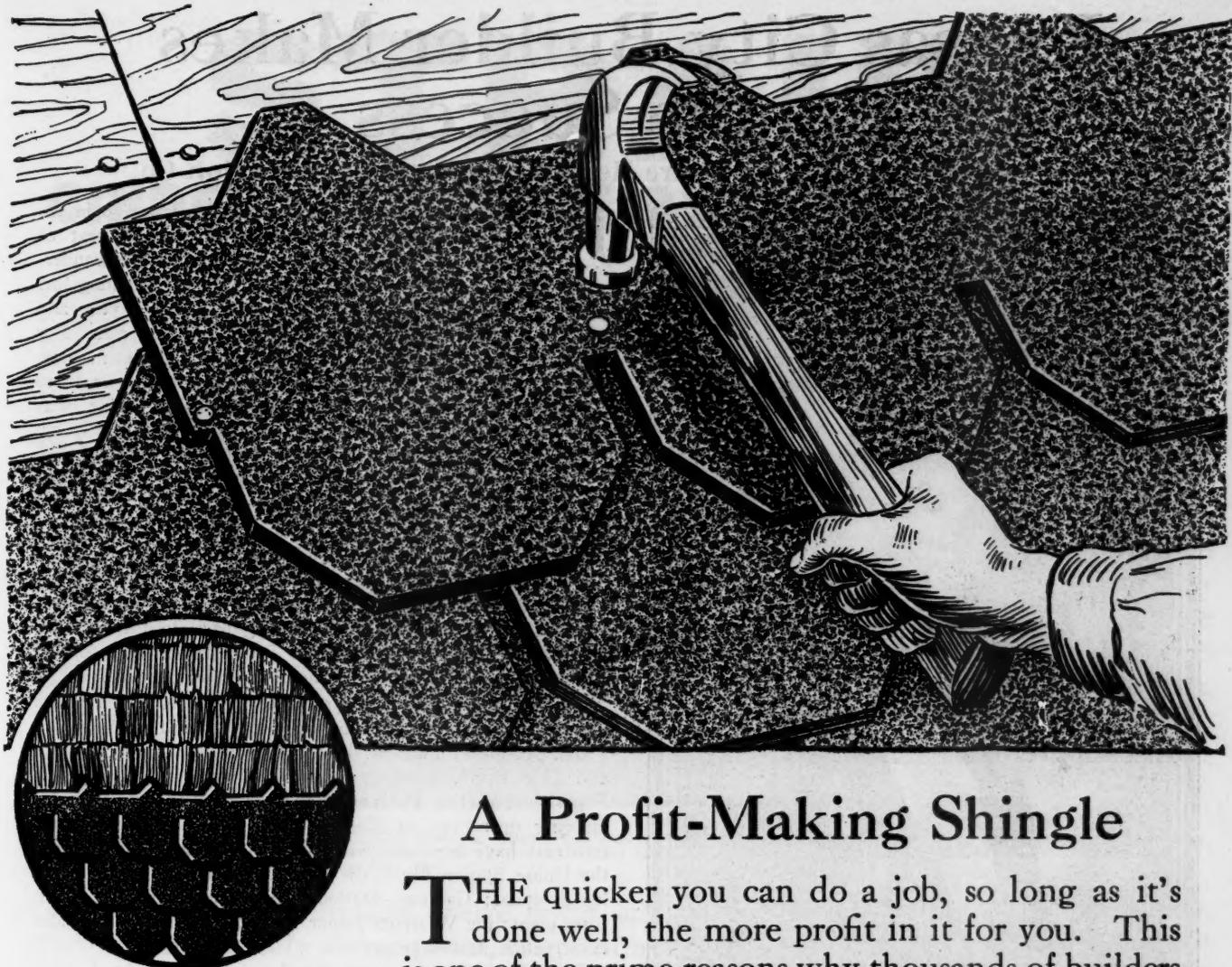
Van Guilder System Changes Hands

AN entirely new organization has taken over the business of the Van Guilder System Concrete Building, Inc., which was formerly located at Rochester, N. Y. The new management, operating under the same name and under the direction of George Burford Hopper as president, has established itself at 15 East 40th Street, New York City.

The Van Guilder System is a method of constructing double monolithic concrete walls by the use of machines which make unnecessary the customary wood or metal forms. As an officer of Isaac A. Hopper Sons, Mr. Hopper used the Van Guilder System on a number of construction jobs for his company and was so favorably impressed by it that he interested several of his friends, with the result that they finally organized to take over the business.



Salesmen and Dealers of the General Fireproofing Company Who Attended the Ninth Annual Convention February 12, 13, and 14, Came from All Parts of the Country to Discuss New Products and Methods of Building Construction.



Easily Laid Over
Old Wood Shingles



The RUBEROID Co., Dept. 1
95 Madison Ave., New York, N.Y.

Gentlemen:

Please send me dealer's name and
samples of Ruberoid Octab Strip-
shingles.

Name.....

Address.....

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Indicate whether home owner, builder,
carpenter or contractor.

A Profit-Making Shingle

THE quicker you can do a job, so long as it's done well, the more profit in it for you. This is one of the prime reasons why thousands of builders have used hundreds of thousands of squares of Ruberoid Octabs during the past few years.

Whether laid on a new roof or over old wood shingles, *Ruberoid Strip-shingles are labor savers*. They reduce your costs for handling, lining up and nailing.

Due to their patented form, Ruberoid Octabs afford 50% greater headlap protection than the usual 10 inch strip-

shingle. You can recommend them without fear to the most critical customers.

You probably know the Ruberoid distributor in your town. If you don't, ask us his name. It will pay you to talk to him before you do your next roofing job. The coupon is for your convenience.

The RUBEROID Co.

Chicago

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OCTAB STRIP-SHINGLE

Kansas City Builder Makes Unique Success

Obstacles Prove Boost to Live-wire Head of the Fogel Construction Co.



Paul M. Fogel, Head of the Fogel Construction Company, of Kansas City, Is Still a Young Man with a Future as Well as a Past Success.

PAUL M. FOGEL was born forty-two years ago in the little Nebraska town of Nelson, the county seat of Nuckolls County. When fourteen years old the wanderlust struck him and he headed south. His funds running low he got a job on a farm and stuck with it for a year and a half and then decided he would be a railroad man. For five years or thereabouts he served as brakeman, fireman, and in construction work on the railroad and then came to Kansas City where his parents were living. This was July, 1901.

The young railroader's first job in Kansas City was an apprentice carpenter at thirty cents an hour. He showed aptitude with the hammer and plane and soon was a full-fledged carpenter with his union card in his overalls pocket. Six years at the carpenter trade and Paul Fogel made a decision. He told his father, who was then with the Kansas City Elevator Company, that either he was going to get into business for himself or he was going back to the railroad. And it was then that the firm of Fogel & Son was formed for the purpose of doing a general building business.

The business grew and prospered and late in 1916 the Fogel Construction Company was incorporated with M. L. Fogel, president; Paul M. Fogel, vice-president and manager, and Lyle Fogel, secretary-treasurer. Fogel & Son and the Fogel Construction Company have been active in business in building operations in Kansas City. Some of their larger contracts have been the Kansas City Terminal, exclusive of the Union Station itself; the Gate City Bank Building; Wesley Hospital; Gateway Station; the Campbell Baking Company plant; the Westport Junior High School, which is under construction at this time.

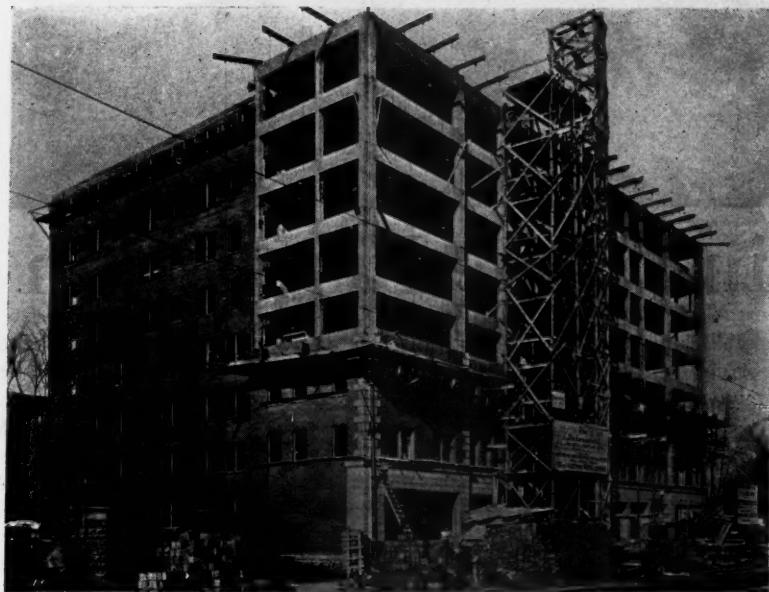
Several of the important Fogel jobs of late have made large use of cinder concrete blocks. "In keeping the costs in the use of cinder blocks on our different jobs," Mr. Fogel writes, "we have found that we can save about 10 per cent for plastering on cinder block. There is also a saving of at least 50 per cent on labor in placing grounds on cinder block partitions. Comparing the cost of building a 12-inch cinder block wall with a 12-inch brick wall, will say if common brick were \$5.00 per thousand delivered on the job; we could build the wall 8 by 12 by 16-inch block as cheaply."

But to go back a little. One might think and naturally that a technical education would be necessary for the sort of work that Paul Fogel has been doing. It would be for most men but all the "book-learning" Mr. Fogel received was in the grade school and three months in the high school at Superior, Neb. His education, however, did not stop there. He has educated himself by study and hard work and it is doubtful if there are many better posted men in Kansas City along a variety of lines than is this young man who left the little Nebraska town at the age of fourteen years to make a living.



Felix Theatre, Kansas City. Fogel Construction Co., Builders. Harry Drake, Architect.

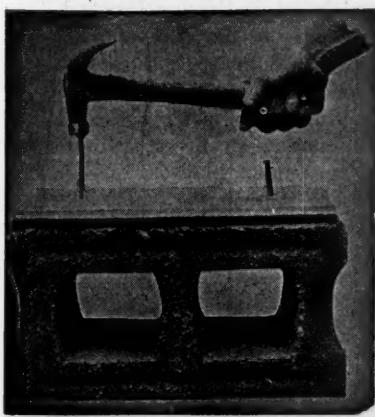
STRAUB CINDER CONCRETE BUILDING BLOCKS



Ambassador Hotel, Kansas City. Quality Builders, Owners and Builders. The cinder concrete blocks for this building were furnished by the Straub Cinder Block Co., Kansas City, Mo.

One standard block displaces twelve bricks and requires less than one-third the mortar. They are *absolutely damp-proof*, fire-proof and soundproof; qualities thoroughly attested in more than ten thousand buildings of every description.

On account of their numerous unique properties, resulting in superior walls at reduced costs, Architects, Contractors and Builders say *Straub Cinder Blocks* have revolutionized the building material industry.



As good as wood for nailing,
and the nails hold.

Tested and passed with high official rating by National Board of Fire Underwriters' Laboratories.

We Have 50 Plants

in successful operation. We invite Architects, Contractors and Builders to visit and inspect our plants. Write for address of plant nearest you. Ask for our complete circular matter, test reports, etc. Your inquiry will be given prompt attention.

Responsible parties will be licensed to manufacture and sell in open territory.

Ten Reasons Why

- 1—Damp-proof, moisture-proof and frost defying.
- 2—Sound proof.
- 3—Tenacious with great strength.
- 4—Non-conductor of heat, cold and electricity.
- 5—Perfect key for inside plaster and outside stucco. (No wood or metal lath required inside or out.)
- 6—Fire-resisting.
- 7—As good as wood for nailing. Nails can be driven into it with ordinary hammer as easily as into wood and the nails hold.
- 8—Rot and vermin-proof.
- 9—Does not sweat—therefore requires no furring or lathing. No mold.
- 10—Great Saving in Cost.

CROZIER-STRAUB, Inc.

120 W. 42nd Street New York, N. Y.

MOTOR TRUCKS and TRAILERS



Truck Cleaning and Inspection

THE following are important points which should be attended to in going over the motor truck for cleaning and inspection, and which are too frequently overlooked:

The drip pan under the motor should not be allowed to accumulate dirt, grease and oil, since it may be the cause of a serious fire or accident. The pan should be removed from time to time and scrubbed with kerosene. A stiff brush should be kept on hand for this purpose.

The motor itself should be kept clean. An effective method of washing down the dirt and oil is to spray kerosene over the outside of the engine, or to apply a mixture of half kerosene and gasoline freely with a brush. In using a brush for this purpose, be careful not to let the metal part of the brush come in contact with electric terminals, since this may cause a short circuit and the consequent risk of fire. While cleaning the motor, it is a good plan to go over all outside nuts and to tighten them. Be sure that all nuts are securely held in place with a cotter pin or lock washer.

Oil leaks in various parts of the truck must be carefully watched and remedied. Detecting these leaks on the street or on the garage floor is usually impossible, but if the operator will occasionally place a large piece of wrapping paper under the car while it is standing in the garage, he will have little difficulty in locating the source of the trouble.

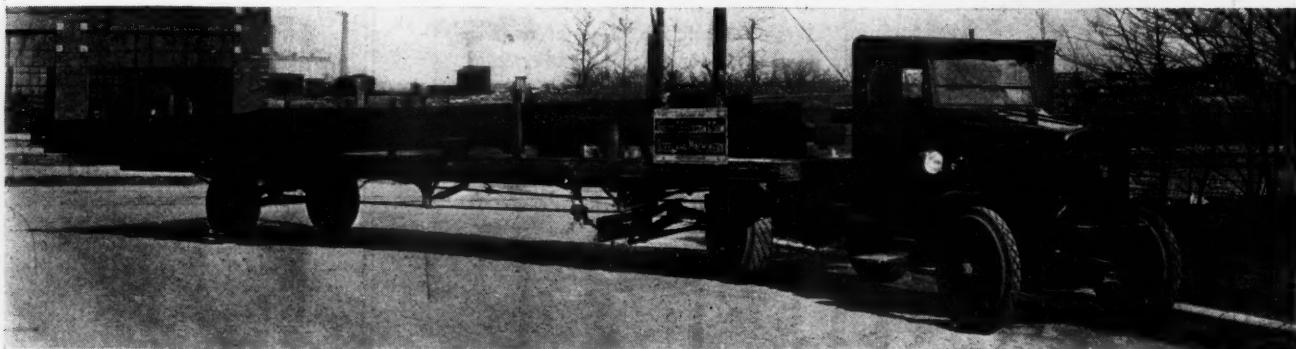
On practically all trucks, the oil and gasoline lines are equipped with strainers to insure that dirt and grit will not pass through. These strainers should be removed and carefully cleaned at regular intervals of about a thousand

miles. The strainers can be located by referring to the truck instruction book. When removed, they should be permitted to dry and then the dirt should be blown out. Do not remove dirt by picking the screen with pins, as this will ruin the strainer.

Many truck operators neglect the underside of their car and this is very largely the reason why so many nuts, bolts, lock-washers and other small parts of cars are soon scattered on the highways. It is true that road strains, vibration, etc., tend to loosen many parts underneath the truck and to cause considerable damage unless measures are adopted to avoid this. The operator should know at all times, the condition of his truck underneath the body, and should go over the nuts and bolts at intervals, tightening them and making sure that they are securely fastened with cotter-pins and lock-nuts.

How to Manipulate Truck at Curb

THE proper way to park a truck in a narrow space at the curb is to turn into the space driving forward, then out to get the truck at an angle to the curb and back in, turning the wheels as a bit of practice will show best. In manipulating the truck, the front wheels should never be turned by moving the steering wheel when the vehicle is not in motion. This puts undue strain on the steering apparatus and will cause too much play in the steering gear. If it becomes necessary to turn the front wheels of a truck while it is standing still, they should be moved by forcing not only the steering wheel, but also by pulling the front wheels around.

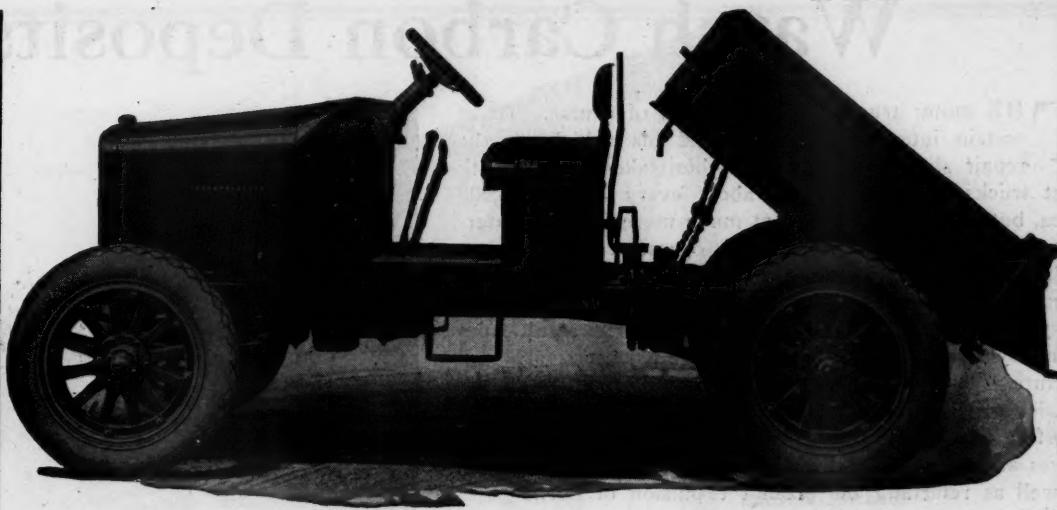


A Heavy Truck with Semi-Trailer Will Handle the Largest and Heaviest of Structural Steel with an Ease That Would Be Impossible with Any Other Means of Transportation and When Not Needed for This Purpose a Different Type of Trailer May Be Used with the Truck for Other Types of Hauling.

International Motor Trucks are sold and serviced through the largest company-owned truck service organization in the world. Direct company branches are located in 105 cities as follows:

Aberdeen, S. D.
Akron, Ohio
Albany, N. Y.
Amarillo, Tex.
Atlanta, Ga.
Auburn, N. Y.
Aurora, Ill.
Baltimore, Md.
Billings, Mont.
Birmingham, Ala.
Bismarck, N. D.
Boston, Mass.
Buffalo, N. Y.
Cedar Falls, Iowa
Cedar Rapids, Iowa
Charlotte, N. C.
Chattanooga, Tenn.
Cheyenne, Wyo.
Chicago, Ill. (3)
Cincinnati, Ohio
Cleveland, Ohio
Columbia, S. C.
Columbus, Ohio
Council Bluffs, Iowa
Dallas, Tex.
Davenport, Iowa
Dayton, Ohio
Denver, Colo.
Des Moines, Iowa
Detroit, Mich.
Dubuque, Iowa
Duluth, Minn.
East St. Louis, Ill.
Eau Claire, Wis.
El Paso, Tex.
Evansville, Ind.
Fargo, N. D.
Fort Dodge, Iowa
Fort Wayne, Ind.
Fort Worth, Tex.
Grand Forks, N. D.
Grand Rapids, Mich.
Green Bay, Wis.
Harrisburg, Pa.
Helena, Mont.
Houston, Tex.
Hutchinson, Kan.
Indianapolis, Ind.
Jackson, Mich.
Jacksonville, Fla.
Kankakee, Ill.
Kansas City, Mo.
Knoxville, Tenn.
Lincoln, Neb.
Little Rock, Ark.
Los Angeles, Calif.
Louisville, Ky.
Madison, Wis.
Mankato, Minn.
Marion, Iowa
Memphis, Tenn.
Milwaukee, Wis.
Minneapolis, Minn.
Minot, N. D.
Nashville, Tenn.
Newark, N. J.
New Orleans, La.
New York, N. Y.
Ogdensburg, N. Y.
Oklahoma City, Okla.
Omaha, Neb.
Parkersburg, W. Va.
Parsons, Kan.
Peoria, Ill.
Philadelphia, Pa.
Pittsburgh, Pa.
Portland, Ore.
Quincy, Ill.
Richmond, Ind.
Richmond, Va.
Rochester, N. Y.
Rockford, Ill.
Saginaw, Mich.
St. Cloud, Minn.
St. Joseph, Mo.
St. Louis, Mo.
Salina, Kan.
Salt Lake City, Utah
San Antonio, Tex.
San Francisco, Calif.
Sioux City, Iowa
Sioux Falls, S. D.
South Bend, Ind.
Spokane, Wash.
Springfield, Ill.
Springfield, Mo.
Terre Haute, Ind.
Toledo, Ohio
Topeka, Kan.
Watertown, S. D.
Wichita, Kan.
Winona, Minn.

Three great factories are devoted exclusively to the manufacture of International Trucks. A corps of factory-trained Road-Engineers inspect regularly and without charge all Internationals in service.



The new Model SD, carrying a 1-yd. body, appeals to large and small contractors in all lines. It is unusually convenient, genuinely economical to operate and is built to last.

Plain Every-Day Hauling

The job of a motor truck is to haul loads in all seasons and to go on doing it for years. After you have invested in trucks, the less you hear about them—except good words from your accounting department, your customers, and your drivers—the better. You want consistent low-cost hauling.

Motor trucks lead hard lives. It is not easy to build trucks that stand the gaff, but they are easy to find—in Internationals. Thousands of firms whose hauling needs are as insistent as yours are proving it to their complete satisfaction.

International Motor Trucks are the products of twenty years automotive experience. You will find the result of that long experience in the sound principles of design and in every mechanical detail of International Trucks. And there are other factors in what International offers you; go outside of the truck itself and give a thought to the matchless service outlined in the column at the left. Is assurance of dependable service, near at your hand, also a part of what you ask of a truck?

International Heavy-Duty Trucks are built in 3,000, 4,000, 6,000, 9,000 and 10,000-pound maximum capacities with bodies to meet every requirement. There is also a sturdy Speed Truck for loads up to 2,000 pounds. Upon request we will gladly supply you with names of International owners in your own line of business and the address of the nearest showroom where the full line of new models is on display.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. of America
(Incorporated) Chicago, Ill.

INTERNATIONAL HARVESTER TRUCKS COMPANY

FOR LOW-COST HAULING

Watch Carbon Deposits

THE motor truck operator knows, of course, that at certain intervals he must send his vehicle to the repair shop to have "the carbon taken out." With most trucks this is necessary about every 2,000 or 3,000 miles, but it may be required at much more frequent intervals, depending on how the truck is operated.

Excessive carbon deposits in the combustion chamber of a gasoline engine very often cause loss of power and noisy operation of the motor. These deposits result from burnt cylinder oil and sometimes from excessively rich mixture. They accumulate on the piston top and in the interior of the combustion head and valve chamber. They interfere with correct valve operation by gumming up the valves and prevent a full charge from reaching the motor, as well as retarding the prompt expulsion of burnt gases by building up around the valves.

The deposits in the cylinder head may cause trouble, owing to some projecting particle remaining incandescent from the heat of a previous explosion and firing the fresh charge prematurely. Carbon deposits always produce loss of power, but their presence is usually clearly indicated by a pronounced knocking or pounding noise. The only remedy for this defective condition is to remove them from the engine interior. This is done by scraping away the material with small hoe-form steel scrapers that may be inserted through the holes left when the valve chamber caps are removed, or by removing the cylinder head if the construction permits. This accumulation may be prevented by careful supervision of the amount of oil supplied the motor, making sure that it is never in excess of the actual requirements, using only the best grades of cylinder oil and by careful regulation of the fuel mixtures. These deposits may be reduced to some extent by injecting three or four tablespoonfuls of kerosene into the cylinders at the end of a day's run, through the priming cocks. This softens the deposit which has accumulated during the day, and when the engine is started up the next morning the dissolved carbon will be ejected through the exhaust, as it will be carried out by the burnt gases. The soft deposit is not difficult to cope with and, in fact, various chemical carbon removers are advertised quite extensively which will remove it without making it necessary to take the motor apart, and it may be burned out with the aid of oxygen, provided the accumulations are not of too long standing.

Tack This in Your Garage SAFETY LAST

LIES slumbering here one William Lake; he heard the bell, but had no brake.

At fifty miles drove Ollie Pidd; he thought he would not skid, but did.

At ninety miles drove Eddie Shawn; the motor stopped but "Ed" kept on.

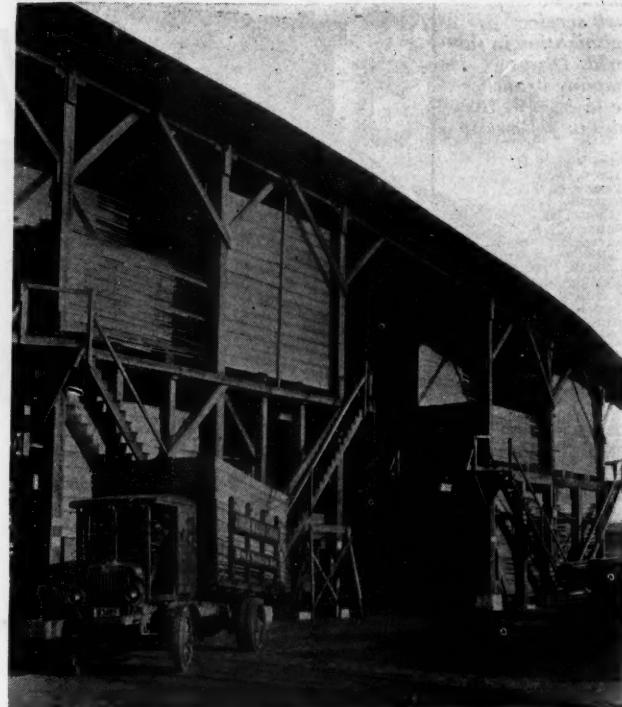
Here he sleeps, one Johnnie Fonker; he rounded a turn without a honker.

Down in the creek sleeps Jerry Bass; the bridge was narrow, he tried to pass.

Beneath this stone sleeps William Raines; ice on the hill—he had no chains.

Here lies the body of William Jay, who died maintaining his right of way.

Here rests the remains of Percival Sapp; he drove his machine with a girl in his lap.



Again the Truck Enables Quick Delivery of Lumber to the Construction Job and with Demountable Bodies There Need Be no Delay for Loading and Unloading on the Larger Jobs.

The hard, thoroughly baked on carbon can only be removed positively by mechanical means.



Adjusting the Carburetor

MANY truck operators are familiar with the construction and arrangement of the carburetor, yet find it necessary to enlist the services of a repair shop when adjustments are required. This is generally because they are not familiar with the symptoms which indicate the necessity for adjustment, and how these may be properly taken care of. Here are a few brief points to assist in a correct understanding of the carburetor.

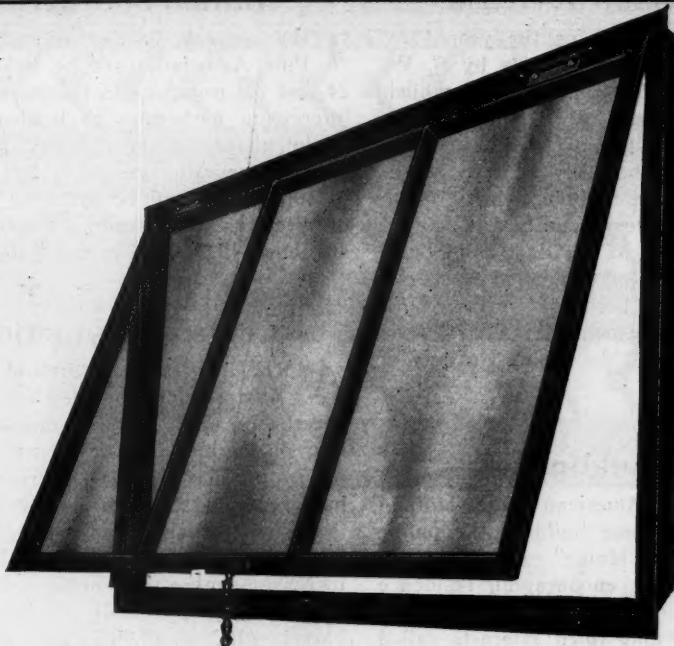
When the carburetor is flooding, giving too much gasoline, either (1) the float is too high; (2) the float is soaked with gasoline; (3) the seating of the inlet needle valve is imperfect, or (4) there is dirt in the inlet needle valve.

If there is not enough gasoline passing through, either (1) the float is too low; (2) there is a sediment or obstruction of some kind between the needle valve and seat, or (3) there is a sediment, water, or some obstruction in the bowl, feed pipe or in the connections.

Backfiring or sudden stopping is generally the result of a mixture that is too lean. Unless this is caused by one of the items mentioned in the preceding paragraph, the chances are that the needle valve is too far closed. Air leaks around the throttle stem, at carburetor flange, or around the gaskets between the inlet manifold and cylinder block may also be responsible for this.

When the mixture is too rich, the needle valve is too far open. Sometimes this is caused by the choker valve being shut or by any of the items mentioned above under "flooding." A leaky carburetor may usually be traced to a puncture in the bowl, to an imperfect gasket or to a loose feed pipe connection.

"Made by Lupton"
means it's right



Made in Three Sizes

HW 31	2'-9 1/4"	Weight 20 lbs. Area 3.5 sq. ft.
HY 21	2'-7 1/8"	Weight 21 lbs. Area 5 sq. ft.
HR 31	2'-9 1/4"	Weight 24 lbs. Area 5.5 sq. ft.

A New and Improved Basement Window of Copper-Steel

THIS window pleases everybody—and no wonder! Lupton investigated thoroughly the needs of builders and home owners, applied their long experience in window making, and built this to suit the need for a practical steel basement window. It embodies all the advantages of previous types of basement windows, but it is lighter, more rigid, and more weather-tight than any other.

You'll Like This Lupton Window

The reduced weight of this new Lupton Basement Window and the fact that it comes completely assembled with all hardware attached, makes it appeal strongly to practical builders. They appreciate the durable copper-steel construction, the stout welding which prevents distortion, and the oven-dried paint of the Lupton Windows, because these features make a window that stands rough handling and one that produces a permanent and economical job in the wall.

High Spots in Its Value

1. COPPER-STEEL—Solid casement sections of copper-steel are used for both window frame and sash.
2. STOUT WELDING—New method of welded assembly gives great rigidity and prevents distortion.
3. LOOSE PIN HINGES—Hinge butts are solidly riveted, but sash is easily removed by taking out the split hinge pins.
4. WEATHER-TIGHT—The continuous anchor builds into the masonry and gives a solid weather-tight job.
5. GUIDE ANGLE—This angle gives a definite line for the mason to work to, and insures a free opening sash.
6. SELF-CENTERING LOCK—Sash is centered automatically when closing, and locked tight with a wedge pin.
7. SOLID STEEL DRIP—An extra degree of weather-tightness is gained by the drip on the bottom sash member.

DAVID LUPTON'S SONS COMPANY

Founded 1871
PHILADELPHIA

Atlanta
Baltimore
Boston
Buffalo
Chicago
Cleveland



Dallas
Detroit
Newark
New York
Pittsburgh

701

Building Permits Show Increase

OFFICIAL building permit figures for the year 1924, according to a survey of 343 cities, made by S. W. Straus & Co., show a total of \$3,630,258,649 and establish the accuracy of the previous estimate of \$5,750,000,000 for the entire country. The gain over 1923, in the cities reporting, was four per cent, which may be taken as fairly representing the percentage of gain for the whole country.

Since 1923 the location of greatest activity has shifted from the Central and Pacific West to the East and South. In the 25 cities reporting the greatest volume, the percentage of increase varied from seven per cent in New York City to 35 per cent increase for Rochester, N. Y. The South showed a gain of 15 per cent, the greatest of any of the four regional divisions.



Will Discuss Building

HOW to raise the standard of American homes built in the future, what facts on home building the public should have, and how "Own Your Home" expositions can best be developed as mediums for encouraging residence construction, are among the subjects to be taken up by a convention of the construction and allied interests called by the National Association of Real Estate Boards in connection with the "Own Your Home" Fifth Annual Chicago Exposition to be held at the Coliseum in March.

Officials of more than forty allied trade organizations and associations that a year ago approved the plan of licensing all such expositions and building shows by the National Association of Real Estate Boards have been invited to attend this convention, the first of its kind ever held.



Mac-Stone Occupies New Plant

THE Mac-Stone Stucco Company, Inc., organized for the purpose of manufacturing Mac-Stone and Oxyment products, has occupied a newly built plant and offices at 1552-1562 Troy Avenue, Brooklyn, N. Y. George V. MacPherson is president of the company and W. S. Steele is sales manager and a member of the firm. Both are well known in the building industry.



Open New York Office

THE Electric Rotary Machine Co., 3825-3831 W. Lake St., Chicago, Ill., manufacturers of floor surfacing and refinishing machines have just announced the opening of an eastern sales office, located at Suite 1843, Grand Central Terminal Building, New York City.

The rapid growth of business has made it necessary to locate in New York City, so that the eastern trade may have the opportunity of dealing direct with a resident representative. A complete line of equipment will be on exhibition and available for demonstrating purposes. Mr. H. L. Lorsch, will be the resident representative.



Administration Building for Employees

The Kirsch Manufacturing Company, Sturgis, Mich., boast a new institution of which it is justly proud. This is an administration building for the employees which contains a spacious lounging room, ball room, recreation room, dining room and swimming pool.

The building is lavishly furnished and beautifully decorated throughout and the floors are all laid with Asbestone flooring of a shade to harmonize with the general color scheme of the decorations, and quality offering resiliency and durability. The architect is Mr. Ernest S. Batterson, of Kalamazoo, Mich.

Annual Southern Pine Meeting

THE annual meeting of subscribers to the Southern Pine Association, to be held in New Orleans, March 24 and 25, promises to be one of the most important and interesting gatherings of lumber manufacturers ever held in the history of the industry, according to announcement by Secretary-Manager H. C. Berkes. The general meeting of subscribers will be preceded by meetings of the board of directors and standing committees on March 23. All sessions will be held in the Roosevelt Hotel, New Orleans.



Cement Production Sets Record

A REVIEW of the Portland cement industry, based on data compiled by the United States Geological Survey and the Bureau of Labor Statistics, shows that the industry has, during the past year, met an unprecedented demand for its product while prices received by the manufacturers have remained at relatively low levels.

During the past four years shipments have increased from 96,000,000 barrels in 1920 to 145,747,000 barrels in 1924, an increase of more than 50 per cent. During the same period the prices have actually declined from a peak of \$2.02 a barrel in 1920 to \$1.90 in 1923, with the probability that the average for 1924 will be less than that for 1923.

Shipments for 1923 exceeded all previous records by a substantial amount, but 1924 shows a further increase of 7.2 per cent, establishing a still higher record.



Bonus a Business Investment

AS its eighth annual Christmas bonus, the S. C. Johnson Company, Racine, Wis., distributed \$78,767 among its employees. In all 348 persons participated, including office employes, factory workers and salesmen. Those who had been with the firm for one year received 5 per cent of the amount of their yearly salary and this percentage ranged up to 30 per cent for those with 10 years or more of service.

With each bonus check went a letter from Herbert F. Johnson, senior partner and general manager of the company, expressing his appreciation of the share which each had in making the year's business a success. Mr. Johnson considers this bonus a profitable business move.

"The sales of the company," he says, "have increased 400 per cent since the bonus was inaugurated and the 1924 sales show a larger percentage of profit than any previous year in the history of the business."



Mill Construction Booklet

CHAPTER six of the National Lumber Manufacturers' Association's Fire Prevention Series, a cumulative work on "Lumber and Its Utilization," has just been issued. This is a booklet prepared in response to a demand for complete and authoritative information on mill construction for factories and warehouses. It is entitled "Fire-Safe Industrial Buildings" and will be followed by another on "Details of Heavy Timber Construction."

The association announces that a copy will be sent free on application to manufacturing companies, interested professional men, and industrial executives. It is in no sense an advertising publication but purely technical and educational in character.

It treats of heavy timber construction as "a new type which has only recently reached its present high state of development" and is therefore not thoroughly known to those trying to select the particular type of construction best suited to their needs.



Truscon 1-A Hy-Rib Metal Lath is easily and quickly applied. Weather does not affect it and it is insurance against fire, the most dangerous enemy to buildings.

Crackless Walls and Ceilings At an Economical Cost

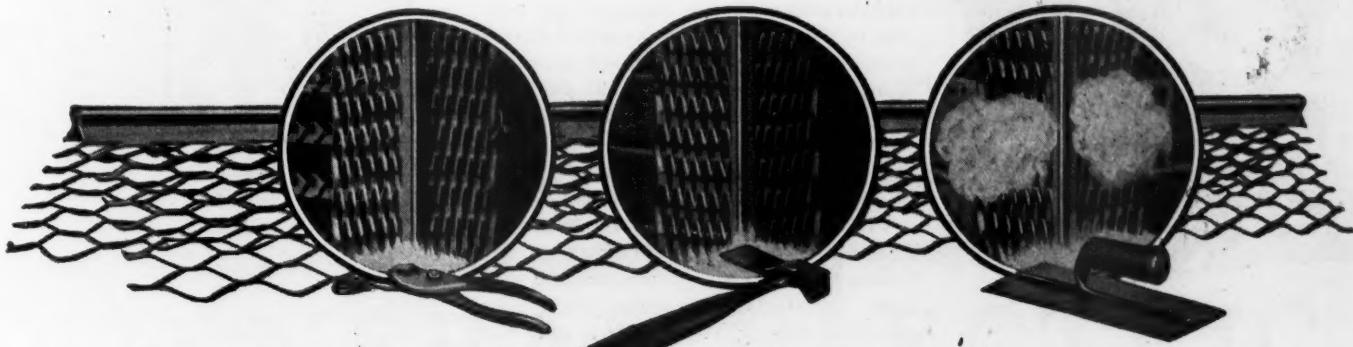
Truscon 1-A Hy-Rib Metal Lath is an important item in the modern, fireproof construction of homes and other buildings. The use of Truscon Metal Lath results in rigid walls and ceilings that will not crack. It does not warp or shrink and will not discolor plaster. Truscon Expanded Metal Corner Bead aids in securing a wall of permanence. Corner Bead protects plaster at the points in corners and edges where it is most likely to be damaged. Construction of walls and ceilings with these products is economical in cost and maintenance and lends fire safety.

Write for further information

TRUSCON STEEL CO., YOUNGSTOWN, OHIO

*Warehouses and Sales Offices in Principal Cities
Canada: Walkerville, Ont. Foreign Div.: New York*

TRUSCON
TRUSCON STEEL CO.
1-A HY-RIB
METAL LATH



Truscon Expanded Corner Bead

on metal, wood lath or masonry

ELECTRIFY ALL BUILDINGS

A Department of Up-to-date Information
for all who Plan and Build

Lower Ceiling Heights Result in New Type of Chandelier

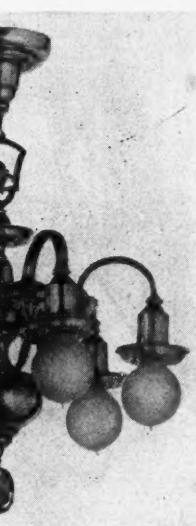
IN the days when homes were lighted by gas it was necessary to keep the open gas flame of the chandeliers at a safe distance from the ceiling. Chandeliers were, therefore, built 36 to 40 inches in length. When installed so as to give a clearance of 6½ feet above the floor it was found that the ceiling height of the room must be 9½ to 10 feet. This is the ceiling height that you will find in old residences.

The introduction of electric lights created a new condition. It was no longer necessary to keep the lights several feet away from the ceiling. But it was not until the World War, when the high cost of labor and material forced economies in building construction, that architects generally began to design houses with low ceiling rooms. Today it is quite common to find rooms with ceilings not more than 8½ or 8½ feet from the floor.

To meet this new condition designers originated a number of attractive, close-up-to-the-ceiling types of chandeliers. These have been favorably received

by architects and by the public and dealers should see that their show rooms contain samples of these ceiling type fixtures since many houses are now being built with ceilings too low for the old type of pendant fixture.

Prior to the development of these ceiling type chandeliers, architects in planning the lighting of a low ceiling room, omitted the central ceiling light



A Compromise Between the Pendant Type of Chandelier and the Ceiling Type Fixture Is It Can Be Used in the Low Ceiling Room.

altogether and relied on brackets and portables for illumination. But most people like to have a ceiling fixture for general illumination, using the brackets and portables for auxiliary lights.

One of the first questions the dealer should ask a customer for lighting equipment is: "How are your ceilings?" If the answer is 9½ or 10 feet a pendant type chandelier may be recommended, but if the ceiling height is not much over 8 feet a fixture that fits close to the ceiling will usually be more suitable.

Make the suggestion to your customer anyway and tell him the reason why close-up-to-the-ceiling fixtures are coming into fashion. We have given you the reason in this article—the long pendant fixture dates back to the days of open gas flames when ceilings had to be higher than is now necessary.

You might add that in a room with a low ceiling there is a distinct advantage in placing the lights close to this position they will be removed from the line of vision and the light will be more generally diffused than would be the case if the light were nearer the floor.

In addition to this, from an artistic standpoint, the close-to-the-ceiling type of fixture is more appropriate than the long pendant type, in a room with a low ceiling.

"Reason why" talk is always interesting to the customer and convinces him of your ability to give him intelligent co-operation in selecting fixtures for his home.



A Fixture Which Is Typical of the Modern Tendency to Place the Lights Close to the Low Ceiling.



A Graceful Shower Effect Is Well Designed to Meet the Requirements of the Room with a Low Ceiling.



It will last as long as the house—

When you specify a G-E Wiring System, you know from your experience with General Electric products that it will give lifetime service. And the public knows it, too.

Have you received our helpful booklet on complete wiring, "The Home of a Hundred Comforts"? Send for a copy.

Section AB-3
Merchandise Department
General Electric Company
Bridgeport, Connecticut

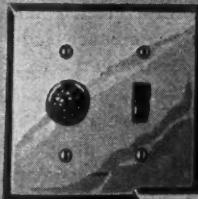
There is no longer any need to scrape one-tenth of one per cent from the cost of a house by saving on the wiring materials. The public understands better, now, the ultimate economy of quality wiring. Now you will find a readier acceptance of a quality bid at a fair price. And you will find that houses equipped with a G-E Wiring System for safety and permanence will sell faster—bring you quicker profits.

A series of two-color advertisements in the Saturday Evening Post is keeping the public alive to the importance of a G-E Wiring System throughout every building.



WIRING SYSTEM
—for lifetime service

In a G-E Wiring System these materials mean convenience—and lifetime service:



G-E Tumbler Switch with pilot to show that the current is on.

G-E Tumbler Switch—a flip of the finger works it.



G-E Convenience Outlets—sturdy for service. Plenty of outlets mean real conveniences.



G-E Conduit Bendsafe protection inside your walls.



In big buildings, G-E Conduit and G-E Wire serve unflinchingly.

G-E BX Cable is the flexible armored wire for permanent.

GENERAL ELECTRIC

Electricity in the American Home

"USE of electrical appliances in the home dates back only comparatively few years but during that time its rate of growth has been amazing," says the National Bank of Commerce in New York. In the February issue of *Commerce Monthly* the bank says:

"The first electric lamp was marketed about 1880, and the domestic appliance industry proper had its beginning about twenty years ago. In 1924 trade estimates place total sales of appliances, fixtures and other electrical merchandise used by retail consumers (as contrasted with commercial and industrial users) at well over a billion dollars. Sales of electricity to all consumers, residential, commercial, power and other public utilities amounted to \$1,270,000,000 in 1923 and are estimated at \$1,335,100,000 for 1924. Of these totals about 50 per cent, represent sales of electricity for domestic consumption.

"Conditions resulting from the war are mainly responsible for the rapid advance in the household appliance industry, since 1914. Probably 90 per cent of all goods bought at retail are purchased by women, and the remarkable increase in sales of domestic appliances which has taken place since 1914 may be said to reflect the economic and industrial changes that have affected the average home. Between 1910 and 1920 the population of the United States increased 15 per cent. During the same period, the number of domestic and personal servants decreased nearly 25 per cent. Restricted immigration made the problem more acute. The labor saving electrical appliance helped to fill the need thus created. Other causes, however, have been contributory. Within the past two or years years the tremendous building that has been going on has been reflected in the rapid increase in the number of domestic customers. The growing popularity of apartment

dwellings and small houses has favored the use of electrical appliances. Willingness of the American public to try new things, comparatively low rates of operation, effective advertising by both light and power companies and manufacturers of appliances, all have helped advance the use of domestic appliances in the average American home.

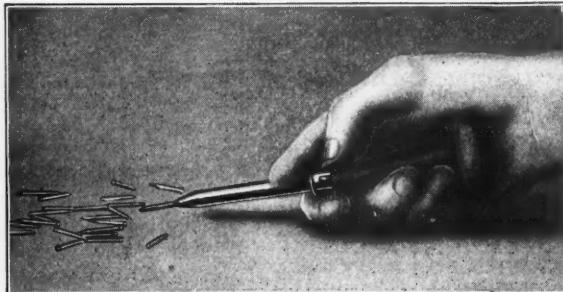
"The use of domestic appliances improves the load factor for the electric light company, and the expansion of the household appliance field came in part from the companies' efforts to eliminate the expensive off-peak periods that occur during the greater part of the day.

"Probably the real forerunner of the modern domestic appliance was the electric fan. Its simplicity of operation and dependable performance did much to popularize the use of electricity in the average home. Today the electric iron stands far ahead among domestic electrical appliances in use, with the vacuum cleaner next, and the fan third. Of all branches of the electrical appliance industry, radio has shown the most rapid rate of expansion in the past four years. Since November, 1920, when the first radio broadcasting for entertainment took place, it has become one of the most important branches of the electrical field."

\$150,000,000 for Public Buildings

THE House of Representatives, on February 2, passed a lump appropriation bill of \$150,000,000 for public buildings throughout the United States for the next five years. It is believed that a lump sum appropriation will eliminate the former practice of distributing the money according to Congressional Districts, instead of according to the real needs of the cities in which the buildings were to be erected.

MAGNETIC BRAD DRIVER



The Magnetized Ram Picks 'Em Up in a Jiffy



A PUSH DOES THE TRICK

SENT POST PAID ON RECEIPT OF \$1.50
MONEY REFUNDED IF NOT SATISFACTORY
LOTS OF 3—\$1.35 EACH LOTS OF 6—\$1.25 EACH
LOTS OF 12—\$1.10 EACH

LOU MARKWELL CO.

174 FRANKLIN ST.
NEW YORK

(See our advertisement on page 75.)

75 STEUART ST.
SAN FRANCISCO



I am a TORK CLOCK

I turn electric lights "on" and "off" regularly.
My first cousin TORK TIMER turns 'em on and off each time you wish.

We are both standard in price and service throughout the United States.

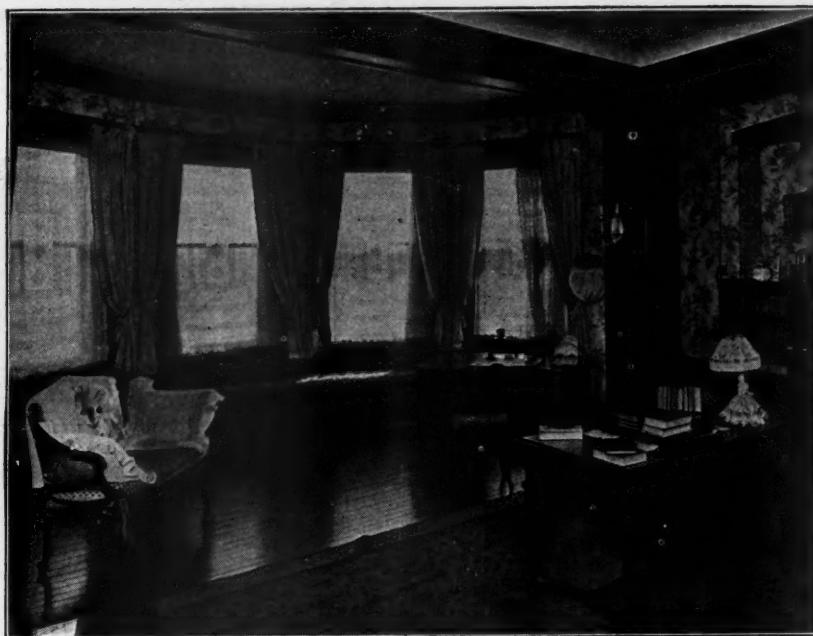
Write for copy of Tork Manual which explains why your electrician likes TORK CLOCKS and TORK TIMERS the best for time controls.

TORK COMPANY

8 West 40th Street, New York

TORK PRODUCTS for ELECTRICAL SERVICE

P. S. A blind man can make a perfect joint with WIRE-NUTS. If you are interested in good electrical work ask for facts regarding this material.



Stained floors that keep their finish and harmonize with the woodwork in homes you build

Stained floors raise new problems for builders. Aside from the need for a flooring-wood tough enough to resist moving feet and furniture, you need a wood which assures permanence of the stain itself.

You need a flooring of such fine fibre and delicate grain that the stain penetrates evenly and harmonizes with the woodwork in the home.

Beech and Birch floorings meet these needs. They are therefore winning rapidly increasing favor with builders and owners for use as stained floors, in addition to their extensive use in their beautiful natural colors, when waxed or varnished. They give you the remarkable hardness of Maple, combined with a texture for staining which sets them apart from all other flooring woods.

When you remodel. Contractors handling remodeling find that $\frac{3}{8}$ -inch Maple, Beech and Birch floorings give them an opportunity to make old floors new at less than carpet cost. Lay this special "thin" flooring right over old floors—without disturbing doors and baseboards. It gives all the surface beauty of these three attractive floorings—and will outlast any ordinary home or residence building.

Write the MFMA Library for

"Color Harmony in Floors"

"New Floors for Old"

"The Floors for Your Home"

These booklets will be sent free on request.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1053 Stock Exchange Building, Chicago

Guaranteed Floorings

The letters **MFMA** on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacturing and adhere to manufacturing and grading

rules which economically conserve every particle of these remarkable woods. This trade-mark is for your protection. Look for it on the flooring you buy.

MFMA

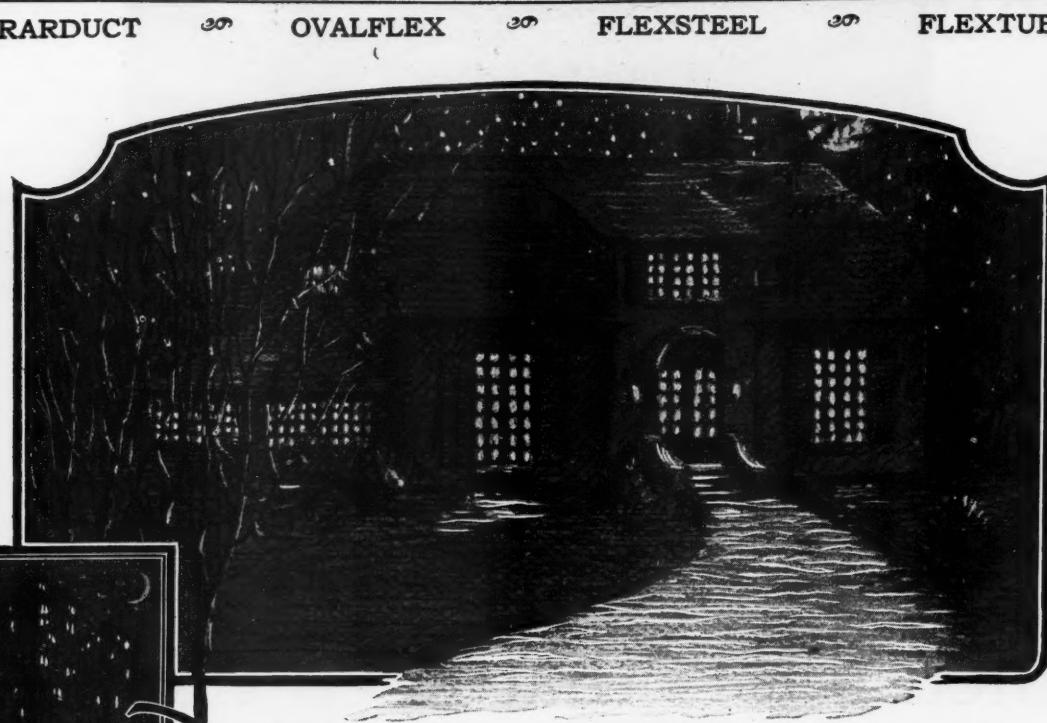
Floor with Maple Beech or Birch

SHERARDUCT

OVALFLEX

FLEXSTEEL

FLEXTUBE



Better Wiring for Better Lighting



If you are planning electrical wiring send for this illustrated book "Better Wiring for Better Lighting." It's free.

NO MATTER how fine the building there is trouble ahead if the hidden wires—back of walls, buried in concrete—are not properly protected against corrosion, temperature changes and actions of the elements.

National Metal Molding Company conduits provide protection that will last as long as the building itself and there is a type for every need. SHERARDUCT is an easy-bending rigid conduit, protected inside and outside by an alloying of pure zinc with steel pipe. Hundreds of the finest public buildings in America are protected with Sherarduct. ECONOMY CONDUIT, another rigid type is protected by double-dipped acid-resisting enamel baked on. FLEXSTEEL is a flexible armored conduit designed for rough usage and OVALFLEX, a similar type, can be laid on wall surfaces without cutting or grooving, and then be completely covered with plaster. FLEXTUBE, a non-metallic conduit, is built with solid walls like a cord tire and METAL MOLDING is a surface raceway for wires, easily installed where concealment is unnecessary.

LITERATURE DESCRIBING THESE PRODUCTS
WILL GLADLY BE SENT ON REQUEST.

National Metal Molding Company

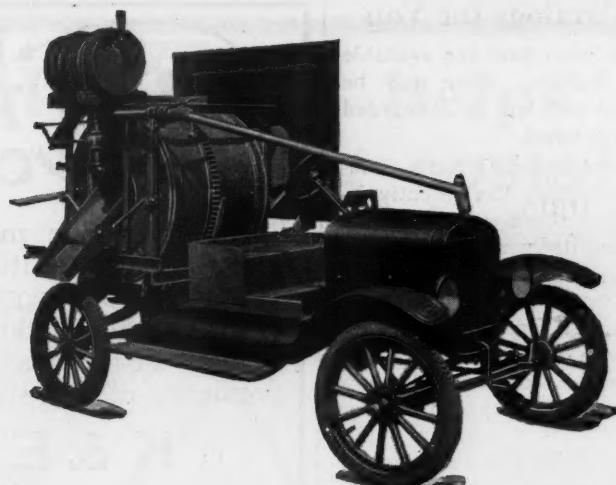
1437 Fulton Building, Pittsburgh, Pa.

[No. 25]

ECONOMY CONDUIT

METAL MOLDING

WIRES



The Auto-Mixer with platform in position for moving to the next job.
"In Position for Moving to Next Job"

MAKE MONEY WITH ARCHER EQUIPMENT

Archer Equipment will speed up production and cut expense because of sturdy construction and ease of operation. When equipped with Archer Hoist Tower Equipment, Speedmobile and Archer Mixer, you can handle any job at a profit.

The Speedmobile consists of an Archer one-bag mixer on a Ford one-ton truck with Archer power take-off for transmitting power of Ford engine to mixer. Equipped with charging skip and paving chute. Makes a combination of dependable mixer and engine which results in a [saving] of men, time and money. Pay for themselves on their first big job.

The Archer Mixer is a quick loading, end discharge machine, easily moved from job to job. Made in two sizes: half sack capacity and one bag capacity. Detailed information on the Archer Line is contained in our illustrated catalogs.

SEND FOR CATALOGS.

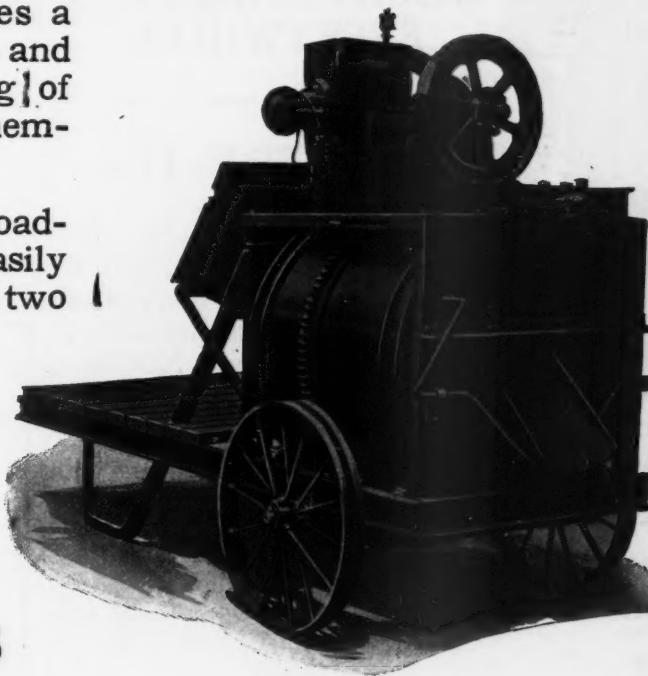
ARCHER IRON WORKS

2439 W. 34th Place

CHICAGO, ILL.



Speedmobile



Archer Mixer

Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

"Structolite Homes." The United States Gypsum Company, 205 West Monroe Street, Chicago, has recently issued an illustrated booklet under the above title describing this fireproof building material and its merits in the construction of permanent, fireproof dwellings. The material is a gypsum concrete, poured in forms, said to have great strength and heat insulating value. Halftone reproductions of construction photographs show a number of dwellings built of this material and sheets of blue print details show several types of Structolite wall and chimney construction and finish.

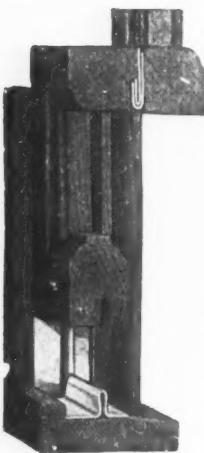
"Wood Preserving News," the monthly publication of the American Wood-Preservers' Association, 1146 Otis Building, Chicago, Ill., contains information for those interested in prolonging the life of wood by various processes of treatment.

"The Wood Universal" is published monthly by the North Carolina Pine Association, Norfolk, Va., at a subscription rate of one dollar a year. It is devoted to the production and use of southern pine products.

"Alpha Aids," No. 40, of the Alpha Portland Cement Company, Easton, Pa., contains two interesting articles on the proper methods of storing cement and the making of cement blocks on the farm.

The Beardslee Chandelier Manufacturing Company, 216 South Jefferson St., Chicago, has just issued a new catalog (S-7) containing illustrations, descriptions and prices of between 400 and 500 chandeliers and brackets. The thing that will particularly interest dealers in this catalog is the fact that every item listed can be shipped within 24 hours after receipt of order.

ALLMETAL WEATHERSTRIP



AGENTS WANTED EVERYWHERE

JUST TRY IT—

then judge for yourself why an ALLMETAL AGENCY is profitable. Any carpenter or mechanic can install it quickly and easily. NO EXPERIENCE REQUIRED.

All orders filled and shipped promptly within 24 hours after being received.

----- SEND BACK THE COUPON -----

ALLMETAL WEATHERSTRIP CO.
231 W. Illinois St., Chicago, Ill.

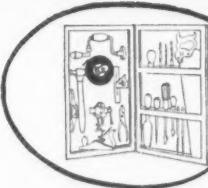
GENTLEMEN:—Without obligation, please send me samples and literature.

NAME.....

ADDRESS.....

CITY..... STATE

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



IS YOUR TOOL KIT? COMPLETE?

"Workmanlike manner" presupposes strict attention to ACCURACY. To base your work on exact measurements, you should use a reliable Steel Tape. For accuracy, durability, and convenience of operation, none can surpass

K & E MEASURING TAPES

Precise Durable Exclusive Patented Features



See Our Products Displayed at Your Dealer's

3 F 3 2 K & E

FREE: A Tape Catalog Is Yours. Write Us Now!

KEUFFEL & ESSER CO.

NEW YORK, 127 Fulton Street. General Office and Factories, HOBOKEN, N. J.
CHICAGO ST. LOUIS SAN FRANCISCO MONTREAL
616-20 S. Dearborn St. 817 Locust St. 30-34 Second St. 5 Notre Dame St. W.
Drawing Materials. Mathematical and Surveying Instruments. Measuring Tape.



There's opportunity and an opening for you to have a real paying business of your own—
Selling and installing

Ceco
METAL WEATHERSTRIPS
"Keep the weather out"
We show you how we HELP you
Write

CONCRETE ENGINEERING COMPANY
Dept. 13 1926 So. 52nd Ave. Chicago, Ill.
Weatherstrip Agents! Compare our proposition. Here is the CREAM!

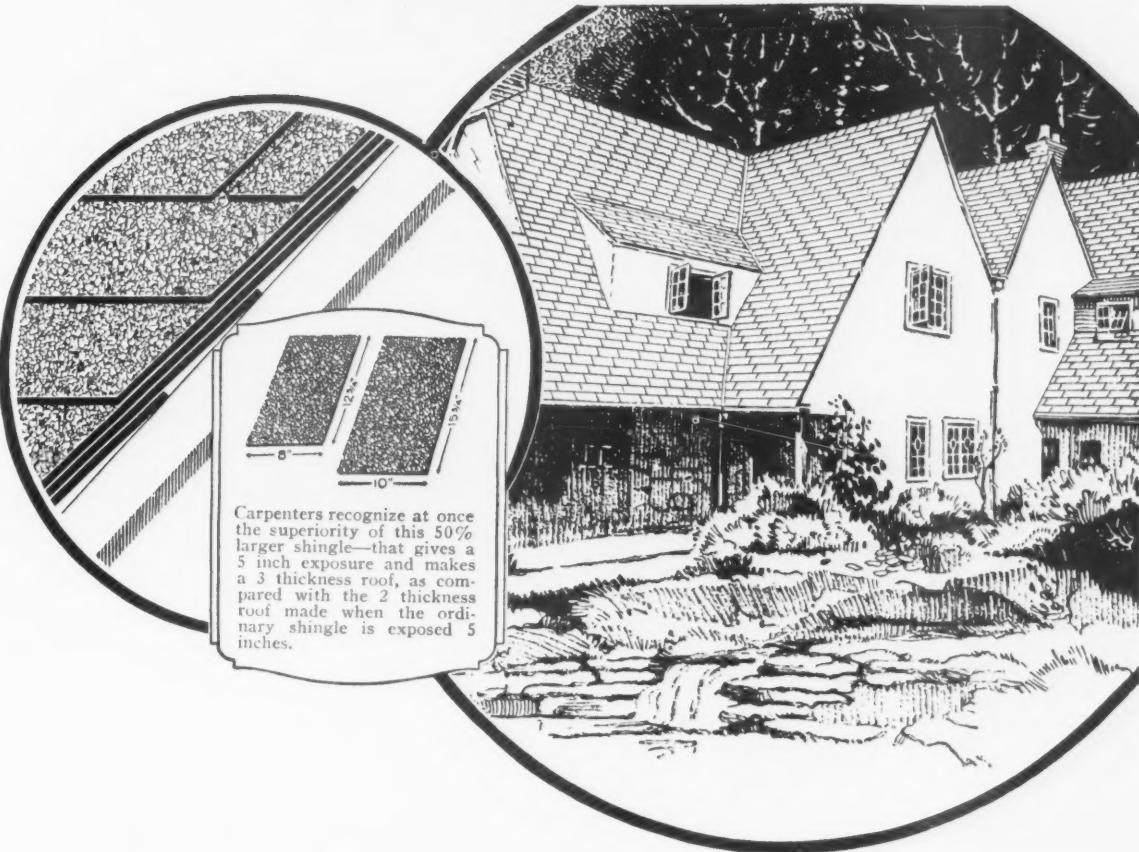
“WHITE” Door Beds and Space Saving Devices

LESS SPACE MORE REVENUE GREATER COMFORT

For Homes, Apartments, Hotels and other residential buildings.

The “WHITE” Door Bed Company
130 N. Wells St., Chicago, Ill.

This BIG SIZE helps hold down building costs!



YOUR biggest problem is to keep construction work within estimates and not sacrifice quality. In the roof, you can help do this by using the BIG SIZE Carey Asfaltslate Shingle.

First of all, it answers every requirement; it is attractive, durable and it protects.

But it also is economical in that it may be applied quicker, easier, and at much less expense. The size, 10 by 15 3/4 inches, means that you use fewer shingles, fewer nails, and at the same time have a three-thickness roof with a 5 inch exposure.

The completed roof is in every way superior. It is permanent. This shingle weighs approximately 300 pounds to the square. There is a deep shadow line that enhances the natural slate surface. It comes in the new and distinctive silver-green, blue-black and red.

Finally, it is "the Shingle that Never Curls"—the shingle that most well-posted home owners want.

Use the BIG SIZE Carey Asfaltslate Shingles on your next job and prove to yourself that it will help cut costs. Ask your dealer or send coupon for complete information.

THE PHILIP CAREY COMPANY
510-530 Wayne Ave., Lockland, Cincinnati, Ohio

Carey
ASFALTSLATE
SHINGLES
THE SHINGLE THAT NEVER CURLS

THE PHILIP CAREY COMPANY,
510-530 Wayne Ave., Lockland, Cincinnati, O.

Gentlemen: Please send copy of "Before You Build" booklet to

Name _____

Firm _____

Address _____

Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

The Jaeger Machine Company, Columbus, Ohio, in its new catalog, No. 25, supplies full information in regard to the complete line of concrete mixers which it manufactures. This catalog contains descriptions and illustrations of each mixer as well as the hoists and engines.

Richardson & Boynton Company, 260 Fifth Avenue, New York City, has established a time payment plan to assist dealers in marketing its line of heating and cooking apparatus. This plan is described in a small booklet and necessary printed forms are supplied with it.

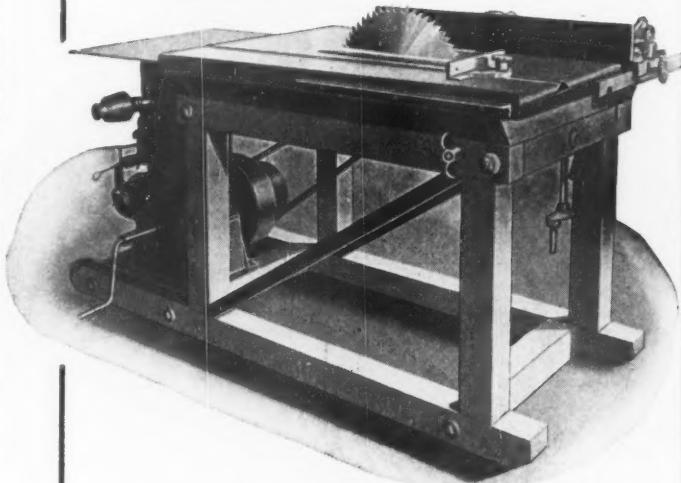
U. S. Bureau of Standards, Circular 192, is issued by the government printing office for five cents a copy. It contains specifications for asphalt prepared roofing based on a four years' investigation by the Bureau, in co-operation with manufacturers and large consumers of this material.

"How Structures Withstood the Japanese Earthquake and Fire," published by the Portland Cement Association, is a report prepared by H. M. Hadley, district engineer in charge of the Seattle office of the association. It tells the story of concrete resistance to the earthquake and the causes of failure where damage was done.

"Novo Power," published by the Novo Engine Company, Lansing, Mich., started its seventh year with the January issue which contains descriptions of the various types of gasoline power plants which the company manufactures for hoists, concrete mixers, pumps and similar machinery and tells some of the stories of Novo accomplishments.

If You Knew—

That you could save the price of this Saw Rig on a single job would you be interested?



No. 2 Superior Contractor's Rip and Crosscut Saw, can be furnished with boring, mortising, emery wheel, sand disc and jointer attachments.

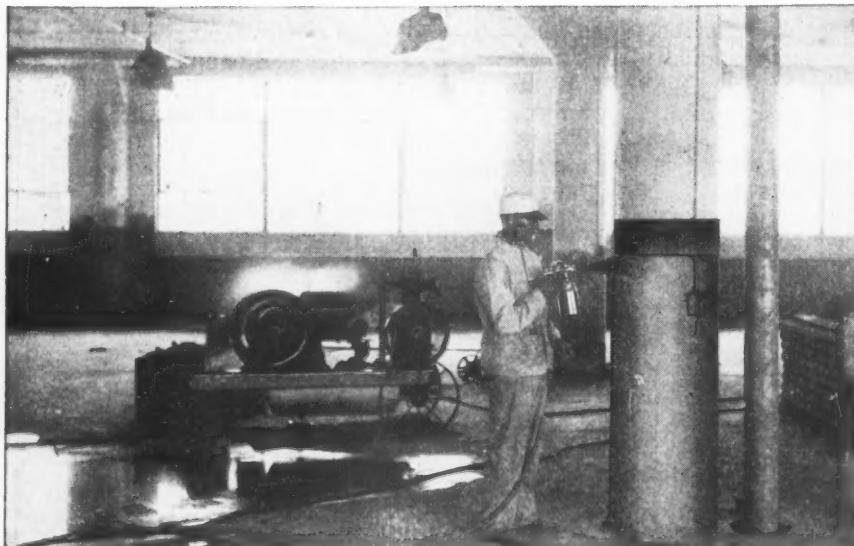
Let us quote you prices.

Jones Superior Machine Co.

1260 West North Avenue

CHICAGO, ILL.

You Paint to Make Money— Painting the DeVilbiss Way Will Increase Your Earnings



[Painting the dado—here the operator is using the DeVilbiss spray gun with Type KN Pressure Feed Cup attached, which is advantageous on many kinds of work]

DeVilbiss
Spray-painting System

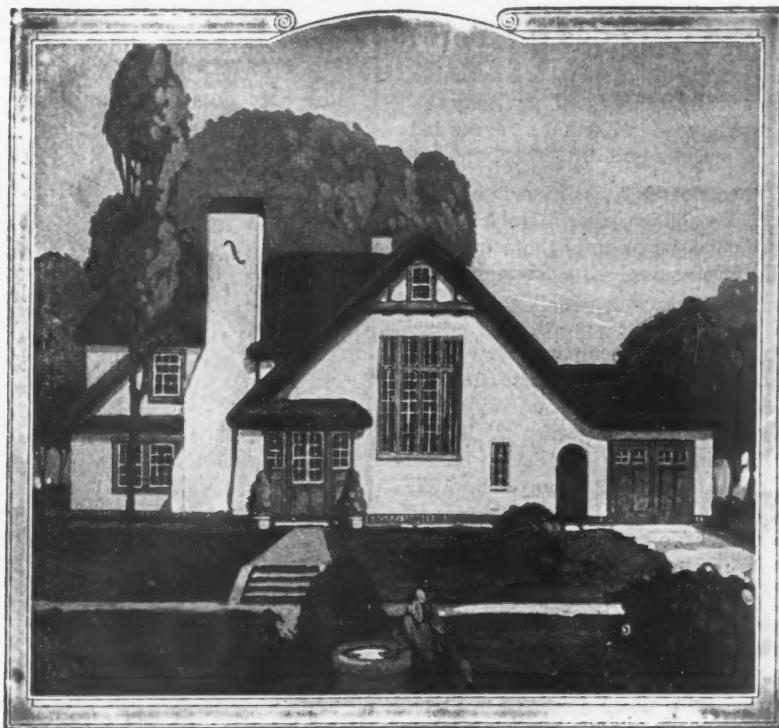
Doing at least two painting jobs in the present working time of one; doubling your profits, or better; improving your service; taking prompter and better care of your customers—these are some of the greater money-making advantages of painting with the DeVilbiss Spray-painting System.

In addition, painting the DeVilbiss way gives to your work the stamp of progressiveness and makes for a more satisfied crew of painters.

The speed of DeVilbiss spray-painting averages 4 to 5 times faster than hand-brushing. The spray-applied coating completely covers the surface, and is even and uniform regardless of character of surface painted and kind of paint used. The best possible results are produced with the DeVilbiss spray gun at the lowest practicable air pressure and without drips and spatters.

Here is opportunity for making a worthwhile increase in your earnings. Additional operation and equipment details of the DeVilbiss System will be promptly mailed to you. Address—

THE DEVILBISS MFG. CO.
238 Phillips Ave. TOLEDO, OHIO



Building for the Future

YOUR reputation as a builder depends on the skill and care you use in constructing your buildings and on the material you put in them.

ASBESTONE Everlasting Magnesia Stucco has for 18 years demonstrated its superiority to contractors and home owners. Its elasticity and great tensile strength insure permanence and smoothness of surface.

In building with ASBESTONE you are using the best the market affords and at a very reasonable price.

Ask your dealer or write us for samples in color tints and pebble dashes. Ask for our new ASBESTONE book.

FRANKLYN R. MULLER, Inc.
208 Madison Street, Waukegan, Ill.

ASBESTONE

EVERLASTING MAGNESIA STUCCO



ASBESTONE Stucco for Exteriors ♦ ASBESTONE Plaster for Interiors

Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

"**Cory Bulletin and Tack Boards,**" is issued by the Armstrong Cork Company, Pittsburgh, Pa., in folder form for filing. It contains complete description of the company's bulletin and tack boards with sample specifications for installations.

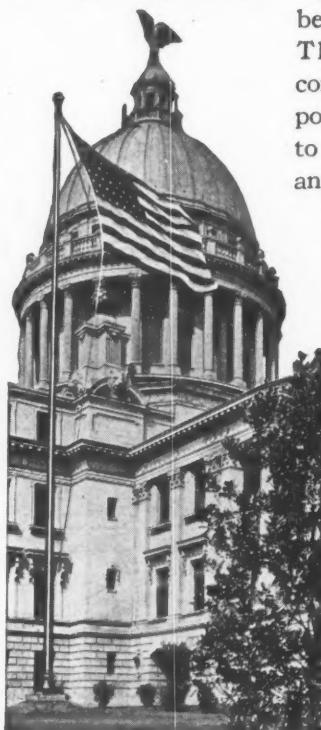
"**T & B Registers and Grills,**" is the new catalog issued by the Tuttle & Bailey Manufacturing Company, New York City. It is a 76-page book containing complete descriptive matter, prices and illustrations of the company's line.

The Murphy Varnish Company, of Newark, N. J., and Chicago, Ill., has issued two interesting booklets. "Eight Periods—and Their Modern Adaptation" is an elaborately illustrated description of eight styles of architecture and the characteristics which they have contributed to present-day buildings. "The Book of Decoration" is a companion booklet on the application of these period styles to decorations and furnishings.

"**Metal Lath News,**" published by the Associated Metal Lath Manufacturers, Inc., 123 W. Madison Street, Chicago, Ill., contains, in No. 5, Vol. II, an insert, Design Data for Metal Lath Construction No. 3, giving the construction detail for stucco walls, with drawings showing the method of installing steel sash, insulation and flashing in back-plastered metal lath stucco walls.

"**Dutch Boy Quarterly,**" a publication of the National Lead Company, 111 Broadway, New York City, contains, in the current issue, articles on "New Glazing Methods," "Wood Staining" and "Painting a Motor for Salt Water Use."

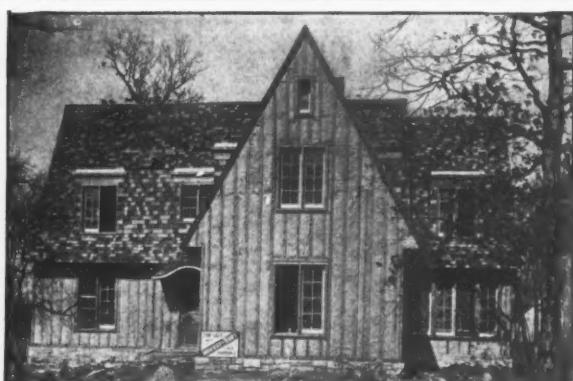
STEEL POLES



A DD to the setting of an attractive building by enhancing the beauty of the grounds. The flag, flying from continuous taper welded poles is the greatest asset to the attractiveness of any structure.

Write for catalog,
price list on our tubular poles and sketch
to meet your requirements.

**THE POLE AND
TUBE WORKS
Inc.
Exclusive Pole Specialists
NEWARK, N. J.**



House near Chicago, showing us "underclothing" of Cabot's Quilt, with "furring strips over the Quilt, on which the outside finish is laid. Roof also insulated. Leon E. Stanhope, Architect, Chicago

Underwear for Houses

Underclothing makes people warm because it prevents the heat of their bodies from escaping. You can make your houses warm in the same way.

Cabot's Insulating Quilt

Prevents the house heat from escaping. It insulates the whole house and saves the heat from the heater—that costly heat. It keeps the house warm on the smallest amount of coal; saves one-quarter to one-half of the coal bill. Makes the house comfortable for all time. Preserves health and saves doctor's bills. Makes the house cooler in summer. Quilt is not a mere felt or paper, but a scientific insulator that makes the house like a thermos bottle.

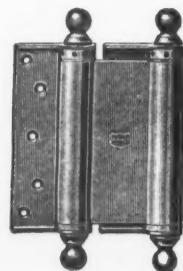


Samples of Quilt with full details, and references to dozens of users, sent FREE on application.

**SAMUEL CABOT, Inc., Mfg. Chemists
BOSTON, MASS.**
342 Madison Ave., New York
24 W. Kinzie St., Chicago
Cabot's Creosote Stains, Conservo Wood Preservative, Stucco & Brick Stains, Damp-Proofing

STOP HEED

TRADE MARK
BOMMER
BUY
THE BEST
HARDWARE
FOR
HARD-WEAR

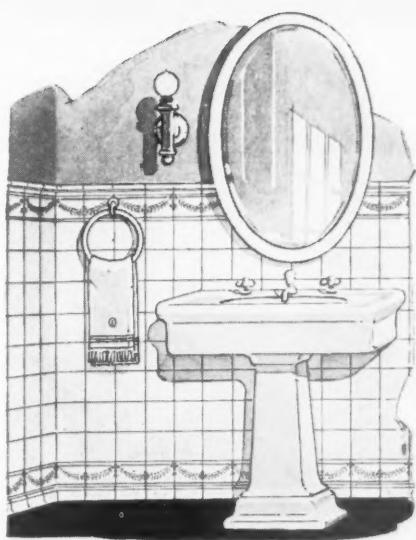


UTILITY
DURABILITY
BEAUTY
IN THE
BOMMER

BOMMER SPRING HINGES ARE THE BEST

Your DEALER handles them,
Get New Catalog 47, you need it.

**BOMMER SPRING HINGE COMPANY
MANUFACTURERS**
BROOKLYN, N. Y.



Used in the Most Famous Hospitals, Hotels, Restaurants and Royal Mansions in Europe.

SANI-TILE comes in many designs and colors from which may be selected the ideal decorative scheme for any particular job. The border used at the bottom of this advertisement is but one of the many beautiful border designs in which SANI-TILE is manufactured.

All the Beauty of Tile— at one half the Cost!

Imagine enameled metal tile whose colors, sheen and finish perfectly rival real tile; that is rust-proof, easy to lay, can be cemented perfectly to any surface and bent round corners of walls without cracking or chipping; that is non-absorbing and absolutely sanitary. And then realize that the cost is about one-half that of tile!

That, in brief, is a visualization of SANI-TILE—the perfect enameled metal tile—now finally available in adequate quantities in America.

A sample of SANI-TILE and all information gladly sent. Simply make your request on your own letterhead. Write today!

Representatives and Distributors Wanted

The advertising and merchandising campaign behind SANI-TILE and the enormous need for this product are factors that combine to make the SANI-TILE franchise an exceedingly valuable one. There are still a number of territories open, for which we will be glad to outline to anyone interested a most liberal proposition. The nature of the opportunity requires immediate communication by letter or telegraph.

SANI-TILE COMPANY

Main Office—290 Third Street
MILWAUKEE, WISCONSIN

For Stores, Homes, Tea Rooms, Restaurants, Office Buildings, Public Buildings, Apartment Houses, etc., etc.

SANI-TILE
TRADE MARK THE PERFECT ENAMELED METAL TILE

For walls and ceilings of Lobbies, Pantries, Kitchens, Hallways, Bathrooms, Operating Rooms, etc., etc.



SLATE THE HIGHEST VALUE AT THE LOWEST COST



The cost of any roof *cannot* be ascertained at the time of purchase—only after the years collect their toll of repairs can the true cost be known.

The first cost of a SLATE ROOF is not any greater than the average, but taking into consideration its long life and freedom of repairs, it is considerably lower in price than the flimsiest roofing paper. Let us prove it.



**VENDOR SLATE CO.
INCORPORATED
EASTON, PENNSYLVANIA**



Something New Under the Sun for Building Contractors

Every Builder who reads this and acts upon it will be in a position to save money on his painting and yet do better work.

An Outside High Gloss Paint of unusual whiteness has been perfected and is being offered to Builders. For five years this paint has been used on buildings in various parts of the country and has stood the test of time. This paint is now ready for you to use.

The formula was developed by the New Jersey Zinc Co., and this is assurance in itself that the product must have unusual merit. This paint is now being manufactured in our modern factory in accordance with the specification of the N. J. Zinc Co. It is known as Tropolith 40-40-20.

TROPOLITH 40-40-20

This paint costs less, both in the can and on the surface, than other first grade Outside Whites now on the market. But that is not all—it has much better hiding power and spreading capacity; it outwears other exterior paints and makes a fine repainting surface. One great advantage in using Tropolith 40-40-20 is that it will not darken in contact with the sulphur gases found in the air in most cities, while ordinary lead and oil is greatly affected by such gases.

Tropolith 40-40-20 is manufactured in white only, but takes tinting colors wonderfully well. It is made in both liquid and paste forms and is sold direct to Builders and other large users of paint. Tropolith 40-40-20 is not sold through dealers.

Send the coupon below for prices of Tropolith 40-40-20 and our booklet showing the results of actual tests against present day paints and pastes.

THE TROPICAL PAINT & OIL CO., 1232-1274 W. 70th St.
CLEVELAND, OHIO

TROPICAL

THE TROPICAL PAINT & OIL CO.,
1232-1274 W. 70th St., Cleveland, Ohio.

Yes, I'd like to have more facts and Builder's prices on Tropolith 40-40-20. Am also interested in items checked below:

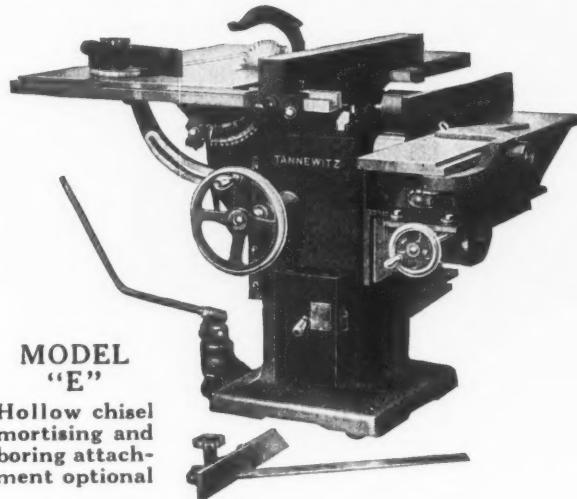
- Cementkote, for concrete and stucco.
- Elastikote, for exterior wood, brick or metal.
- Roofkote, for waterproofing old roofs.
- Waterproofing Paint, for use below the grade line.
- Toconamel, gloss wall enamel.
- Floorkote, for cement floors.

NAME

STREET AND NUMBER.....

CITY..... STATE.....

Make Sure NOW That You Choose the RIGHT Combination "Portable"



MODEL
"E"

Hollow chisel
mortising and
boring attach-
ment optional

YOUR profits for the next season, and many seasons to come, will be greatly affected by the quality, dependability and usefulness of the "Portable" you buy now.

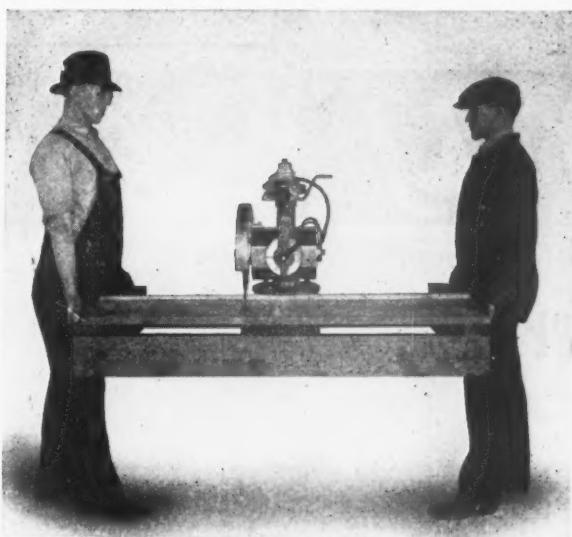
Consider then some of the qualifications that make the Model "E" the best possible investment of this kind to be had.

This machine not only rips, miters, cross-cuts, bevels, grooves, gains, rabbets, joints and planes, but performs all these operations as well as the finest individual machines.

It is solid and substantial because of the quality built into every part of it; compact, yet readily accessible; easily moved from place to place—a machine that cannot fail to give you many years of dependable, trouble-free service.

Before making a choice, by all means write for Bulletin E, which fully describes this splendid machine. It will show you what a *real* machine, a combination "Portable" can be.

The TANNEWITZ WORKS
Sawing Machinery Specialists
GRAND RAPIDS, MICH.



A Truly Portable Machine

The DeWalt Woodworker

saves money on 18 wood working operations necessary on every job. This is 18 opportunities to make money with the lightest portable bench machine obtainable. And you can change from one operation to another in from five to ten seconds.

The first cost, which is moderate, is soon forgotten—profits and the time gained in completion of contract being constant reminders of the accuracy and dependability of the DeWalt machine.

A real direct Motor Drive—no gears—no belts; all cutting tools mounted direct ON motor shaft; instant change of tools or position.

4 H. P. Model 260 lbs.

Condensed power unit INSTANTLY available for Any Purpose in Any Position.

The illustrations prove the portability—let us prove the practicability. Write

De Walt Products Co.
Leola, Lancaster County, Pa.



From Floor to Floor



Hagarty Says—

"Architects and contractors are stuck on my ROCBOND houses, but there ain't no trick about it.

"Just follow directions, slide on a good half inch and she'll stick 'til the crack of doom!

"Ol' ROCBOND'S a square shootin' material, but it won't stand for abuse more'n any other good thing."

ROCBOND

Exterior Stucco

A Good Half Inch

|| FOUR PLANTS ||

Write the one nearest you.

The Rocbond Company

Van Wert, Ohio Harrisburg, Pa.
Cedar Rapids, Iowa New York, N. Y.

The Rocbond Co.

A. B.

Please send me "Homey Homes" book describing
Rocbond Stucco. No obligation is assumed.

Name.....

Address.....

If Looking For

Economy

Investigate the remarkable IDEAL POWER ROLL-OVER STRIPPER

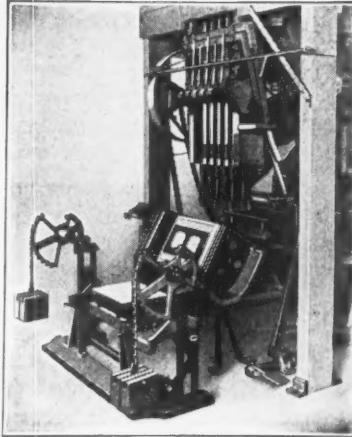
which makes the world's lightest, strongest tile MOST ECONOMICALLY and we can prove it! In fact, the Ideal Roll-Over—high speed—is the only practical machine for stripping block or tile on wood pallets.

Wood pallets are economical—they cost little, they are light in weight—only one size is used on all block or tile. Yet they are not lacking in strength for they are built up with cleats on bottom, which also prevents breakage.

Additional economy is afforded through the fact that one man carries away two tile and only one man is required for offbearing—and it isn't necessary to install two machines, as the Ideal Roll-Over makes both tile and block.

Write us for complete "Roll-Over" information—NOW.

Ask us about our famous
**Ideal Vertical
Stripper**



I D E A L
THE IDEAL CONCRETE MACHINERY CO.
5014 SPRING GROVE AVE. CINCINNATI, OHIO
TRADE MARK  REG U.S. PAT OFF.

"ANTI-HYDRO" Keeps the Concrete Pits Absolutely Dry in this 'Spearmint' Factory

The concrete pits in this new Wrigley plant are permanently waterproofed with "ANTI-HYDRO," and as a result, they are *always* dry.

A one-inch cement plaster coat mixed with "ANTI-HYDRO" when applied *on the inside* of pits, walls and foundations keeps them absolutely dry against any head of water.

"ANTI-HYDRO" is extremely easy and economical to use, because it is a liquid integral compound that mixes readily with the gauging water without the aid of skilled labor. It accelerates the set of cement and so enriches the concrete that the finishers' time is reduced to a minimum.

For 20 years, "ANTI-HYDRO" has proved its economy and satisfaction on every type of hardening and waterproofing work. Use it on your next job.

ANTI-HYDRO WATERPROOFING Co.

265-269 Badger Ave.

Newark, N. J.



New Building for Wm. Wrigley, Jr., Co., Chicago, Ill.



Archt., S. Scott Joy
Contr., E. W. Sproul Co.



The Fireplace Must Please the Housewife

HERE are no two ways about it. She's the judge. And if the fireplace doesn't burn well, smokes or smudges up with soot, you are going to hear from her.

That's one reason why successful fireplace builders are using Donley Fireplace Plans and installing the Donley Damper with its smooth metal throat that draws off fumes, gases and smoke and assures a clean, economical fire.

If you are interested in building successful fireplaces that will please the most exacting housewife you should read the Donley Book of Fireplaces. It contains many unusual and beautiful fireplace designs, complete plans and photographs of proper fireplace construction. It's yours for the asking. If you say so, we will also send you the Donley Catalog of Building Specialties.

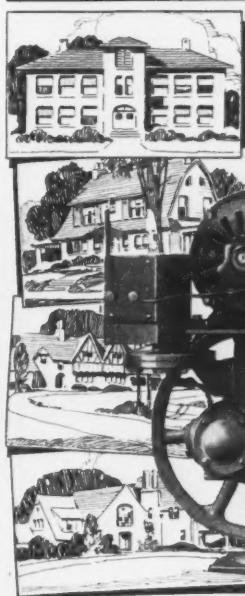
The Donley Brothers Co.

13910 Miles Ave.  Cleveland, Ohio

**DONLEY
DEVICES**
Complete the Home



SUBURBAN WATER SYSTEMS



The New
DAYTON "CUB"
\$85



For Dependability— The Guaranteed **"DAYTON"**

DEPENDABILITY and performance constitute the only sound basis of comparison in water pumps—and a comparison of values on this basis invariably leads to the selection of a "Dayton".

There is a Dayton Pump manufactured to meet any requirement in city, suburb or country—for home, school, club or any other building need. They are made for deep or shallow wells or cisterns and with capacities of from 200 to 3000 gallons per hour.

A new low priced Dayton—the Dayton "Cub" may now be had for as little as \$85.00. With the same qualities of dependable construction built into it that have heretofore characterized Dayton Pumps and with a capacity of 200 gallons per hour, it is easily the outstanding value on the market.

Write for literature on this and the complete line of pumps made by the pioneers in the manufacture of private water systems.

The Dayton Pump & Mfg. Co. Dayton, Ohio, U. S. A.



Please send
at once your
catalog and prices
on Dayton Pumps.

Tear off and pin
to your letterhead.

Name _____
Address _____

"Dayton" Pumps
Make the water do the running

"Two jobs will pay for them"

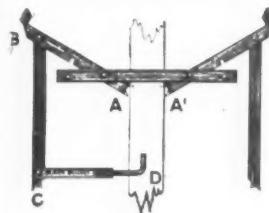


READY FOR STUCCO

BEAVER ALL STEEL BRACKETS FOR SINGLE POLE SCAFFOLDING

Tested to 4000 Lbs.
Fit any 4" Surface

Write for Illustrated Folder



SHOWING METHOD OF ATTACHING TO POLE—set spurs A, A₁ level, then pull down arms B, B₁, adjust brace C in place and tighten hand screw D. Weight 10 lbs. Folds to very small space.
ABSOLUTELY GUARANTEED

MADE FOR 30" AND 40" SCAFFOLDING
ASK YOUR BUILDING SUPPLY JOBBER

Distributors



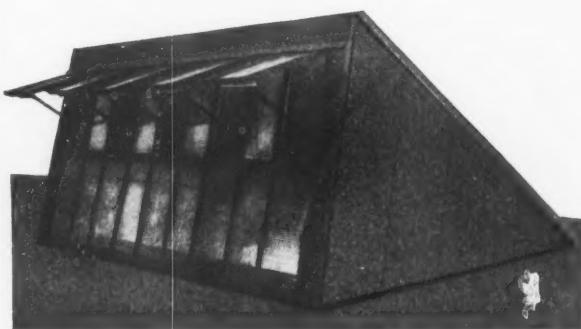
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Springfield Contractors Supply Co., Springfield, Mass.
Windsor Cement Co., Hartford, Conn.
Gesner Contractors Equip. Co., New Haven, Conn.
E. B. Kelley Co., New York—Philadelphia.
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Edgar Alexander, Atlanta, Ga.
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Standard Machinery and Equip. Co., Spartansburg, S. C.
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Western & Southern Distributors Wanted

BEAVER METAL PRODUCTS CO., Inc.
80 Boylston Street, Boston, Mass.

HERE IS A PRACTICAL AND INEXPENSIVE SAWTOOTH SKYLIGHT



The Willis Sawtooth Skylight meets instant approval of experienced builders. Its many advantages are so apparent that it needs no sales argument—and—best of all, its price is right.

*Ask for complete
description and
quotation*

WILLIS MANUFACTURING CO.
GALESBURG, ILL.

Duplex Steel Bridging costs less installed than wood

—And yet how much better, from the standpoint of both owner and builder. Strong, light, permanent, installed in one-eighth the time, with half as many nails required.

Supplied in convenient flat bundles of 25, in six sizes for 8", 10" and 12" joists and for 12" and 16" joist spacings. Easily shipped and handled.

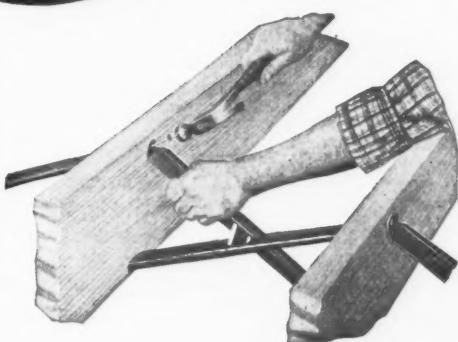
With its many advantages, Duplex Steel Bridging will cut your bridging costs more than half. Write at once for free sample and illustrated folder.



Here's the old way

Wood bridging to be cut by hand—Two pieces, each with two or more nails on each end. Always the chance of splitting, warping, and loosening, after installation.

A putting time and money-wasting job.



And here's the new!

GF Duplex Steel Bridging, in bundles ready to nail. Light, strong, everlasting. One piece and only four nails to drive. And costs less, installed, than wood.

THE GENERAL FIREPROOFING CO.

Youngstown, Ohio

Export Dept. 438 Broadway, New York City -- Cable Addr. "Genfire-NewYork"

DUPLEX
STEEL BRIDGING



Donn Barber, eminent architect, is quoted in a national woman's magazine as pronouncing this attractive home of John Wise at Relay, Md., "the best small house for its price" among those entered in a recent prize contest. Roof is of WEATHERBEST Green and sidewalls WEATHERBEST Gray Stained Shingles.

The Appearance Pleases—and So Does the Cost

THE key to home design of artistic beauty well within the cost limits of the average client or purchaser is found in

Weatherbest STAINED-SHINGLES FOR ROOFS AND SIDEWALLS

Their distinctive and picturesque shades win the eye at first glance—while their saving of \$100 to \$200 per house compared with the cost of weatherboarding, wins the approval of the most practical minded watcher of cost sheets. The resistance of WEATHERBEST to depreciation is equally important from the viewpoint of both appearance and economy. All WEATHERBEST Stained Shingles are strictly edge-grain British Columbia red cedar.

WEATHERBEST STAINED SHINGLE CO., INC.

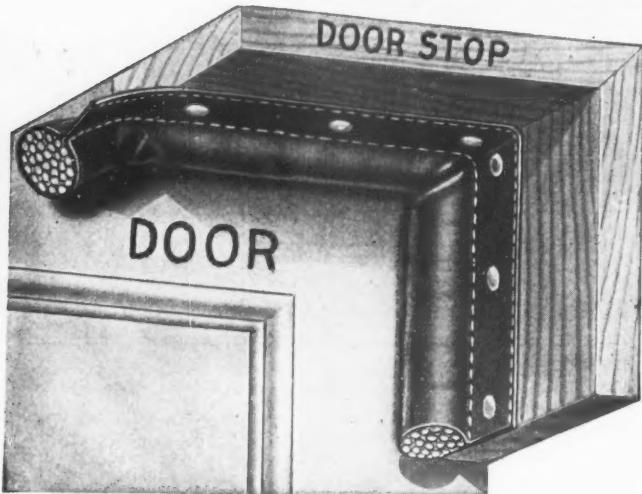
143 Main Street, North Tonawanda, N. Y.
Western Plant, Minnesota Transfer, Minn.

WEATHERBEST Stained Shingle Co., Inc.

143 Main St., No. Tonawanda, N. Y.

Please send WEATHERBEST color samples, literature showing lower cost of WEATHERBEST Stained Shingle Sidewalls, and book on WEATHERBEST Thatched Effect Roof Construction.

You Can Safely Put On This Strip WHEN the HOUSE is NEW



EASY TO APPLY

Simply tack on, turn the corners. The only tool needed is a tack hammer. No sawing or mitering. No taking down of doors and windows. No waste in left over ends as you can get the exact number of feet you need from your dealer or direct from us.

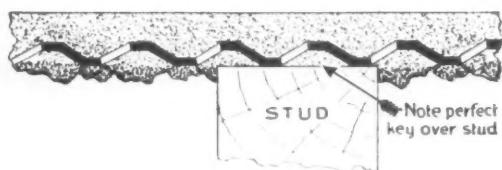
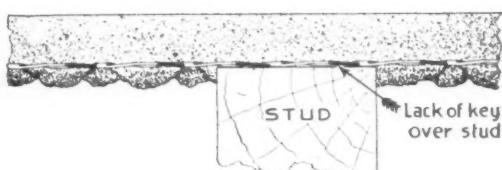
It isn't necessary to wait until the house settles before you apply Home Comfort Weatherstrip. Heretofore builders have followed this practice with other kinds of weatherstrip, and rightly too. But this new flexible strip may be applied to the house as soon as it is built, because Home Comfort Weatherstrip is flexible; if the windows and doors warp or settle after it has been applied, this strip follows the wavy surface, filling up the opening or compressing, as the case may be. Thus a weathertight, waterproof, noiseless contact is assured.

E. J. WIRFS ORGANIZATION
116 S. 17th St., St. Louis, Mo.

Pat. Jan. 22, 1924. Accept no infringement or imitation!

WIRFS HOME COMFORT
PATENTED
INSULATED - CUSHION - FLEXIBLE
WEATHERSTRIP

Tested and Proven for a Generation



The illustrations above show the perfect key secured with Expanded Cup compared with ordinary expanded lath.

Sykes Expanded Cup Metal Lath is equally satisfactory for the overcoating remodeling job, on sheathing, or for back-plastering without sheathing.

SYKES Expanded Cup is the original self-forming metal lath. It was in use a generation ago—and the houses then stuccoed are still solid and unimpaired by wear and weather.

It is a remarkable fact that the sections where Sykes Expanded Cup was first used—Minnesota, Florida, California—are now the biggest markets both for stucco construction and for Sykes Expanded Cup.

In newer markets it is also a fact that one Sykes job sells another, and that the Sykes dealer finds a constantly increasing business. There is no advertisement like a satisfied customer, for either the dealer or the contractor.

Write today for a sample of this time-tested lath—more popular today than it has ever been before.

**SYKES METAL LATH
COMPANY**

**BETTER BUILDING
SPECIALTIES**

Niles, Ohio

When it's shown it's sold



What Water System Should I Specify?

Above all, you want to give your clients satisfactory water service. And the fact that you have specified Duro is proof that they are **guaranteed satisfactory water service**.

How to Specify Once and Wisely

It's wasteful and extravagant to specify more pumping capacity than is needed. Yet infinitely worse to select a system that is inadequate for that particular home. Can you always select the right system of the proper capacity for the particular conditions involved?

The Duro Advisory Service correctly solves your water supply problems. Duro gladly assumes the responsibility for every installation made in accordance with its recommendations

Why not take full advantage of this helpful service? All you need do is to fill in the Consultation Blank. No obligation. The Duro Advisory Service is free.

Write NOW for Free Consultation Blank.

The Duro Pump and Mfg. Co.
103 Monument Ave. Dayton, Ohio

DURO

Water Systems



DURO GUARANTEES SATISFACTORY WATER SERVICE



AND now — an expansion shield that you drive home with a hammer. No slow, laborious turning with screw driver or wrench. Speeds up work fully 50 per cent. The nail simply expands the metal — the shield itself holds the load. Permits use of the fixture itself as a templet — insuring neater work and saving of time.

DRYVINS

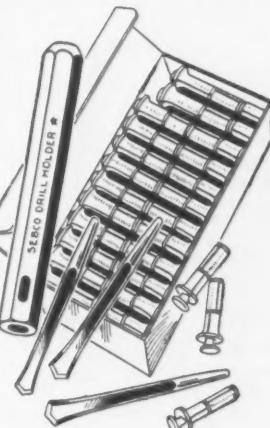
Tested and approved by New York City Bureau of Buildings. Used by Telegraph and Telephone Companies, Public Service Co. of New Jersey, David Lupton Sons Co., Philadelphia, Erectors, Electrical Contractors, Plumbing Contractors, Sign Companies, Awning Companies, Builders, etc. Send for literature describing this remarkable expansion shield device.

SAMPLE KIT

Dryvin Expansion Shields, Dryvin Drill Point and Chuck

Dryvin shields, Dryvin drill point of Vanadium steel and special hand chuck that makes drilling faster and easier. Specify type of work and size of shields desired. Complete outfit—list price—averages \$1.00 Special offer . . .

Dryvin Sizes
 $3/16 \times \frac{3}{8}''$ $\frac{1}{4} \times 1''$ $\frac{1}{4} \times 1\frac{1}{4}''$
 $5/16 \times 1\frac{1}{4}''$ $\frac{3}{8} \times 2''$ $\frac{1}{2} \times 2\frac{1}{4}''$



LOXIN Expansion Shields

One half inch shorter than ordinary shield, saving time in drilling. Jam collar keeps expansion at bottom of hole. Won't work loose.

STAR EXPANSION BOLT CO.

Established 1900

147 CEDAR STREET

NEW YORK CITY

Full Stock carried at following branches:

Philadelphia
Boston

Chicago
St. Louis

Los Angeles
Seattle

Montreal
Toronto
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MORE MONEY for YOU

Modernize old homes, by laying $\frac{3}{8}$ " Oak Flooring over worn softwood floors.

Many contractors and builders have increased their business by telling people in their city about oak floors.

Show them how inexpensively $\frac{3}{8}$ " oak flooring can be laid over old and unsightly softwood floors. Let women know that oak floors are clean and sanitary, that they save housework, that the cost need not be more than new carpets. Mention the permanent value added to property.

Free books will help you

"The Story of Oak Floors" contains plates



of the new color finishes. It will help you get orders, as it did Wm. J. Benko of New Brunswick, N.J., who writes, "I personally distributed 10 books, and got 6 jobs." Mail the coupon for your copies.

How to figure the exact amount of flooring required is explained in "How and Where to Use Oak Floors", also grading rules, measurements, proper laying, scraping, and finishing.

Mail this Coupon



OAK FLOORING BUREAU
838 Hearst Bldg., Chicago

Please send me "The Story of Oak Floors," and "How and Where to Use Oak Floors."

Name.....

Address.....

City..... State.....



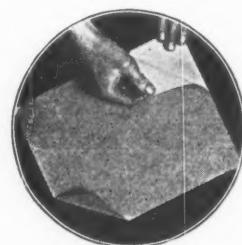
"Ruff-Stuff" GARNET

A clean properly graded, smooth-cutting, long-lasting, sharp-edged crystalline garnet, securely fixed to an extra-tough paper backing.

Does uniform work, with no scratches or deep lines.

You'll never know good garnet till you use

"RUFF STUFF"



Send us a trial order, rolls of the sizes and grit-numbers that you use.

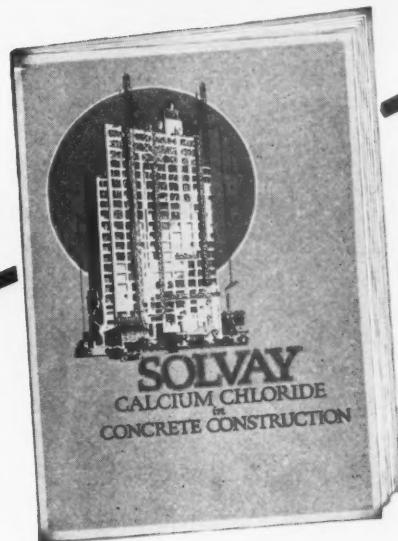
"Ruff Stuff" Garnet is also furnished in cabinet and finishing sheets, all grits. Also Garnet cloth for belts.

And don't forget Ruff Stuff Flint Papers—famous the world over.

Wausau Abrasives Company

1025 Harrison Boulevard
WAUSAU, WISCONSIN





Write for this new booklet today!

The new Solvay booklet gives you the latest available information on the use of Calcium Chloride in concrete construction.

SOLVAY CALCIUM CHLORIDE

Exhaustive tests by foremost authorities prove that Solvay accelerates, waterproofs and strengthens concrete. Also protects against freezing temperatures.

Solvay will save you time, labor and money on all concrete work.

Seventy-five conveniently located distributing points assure prompt service with minimum transportation costs.

Write for Booklet No. 1753

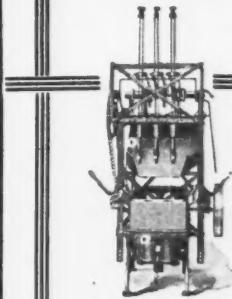
The SOLVAY PROCESS CO.

Wing & Evans, Inc., Sales Dept.

40 RECTOR STREET, NEW YORK

Boston Cincinnati Cleveland Chicago Detroit
Pittsburgh Syracuse Indianapolis

"Panama" Concrete Machinery



Panama Power Tamper

A block a minute can be turned out with the aid of this machine. No extra labor necessary. Designed for use with 8x8x16 inch block machine.



Panama Batch Concrete Mixers with Side Loaders

are made in 5 and 10 cu. ft. capacities. Greater efficiency is obtained as the side loader can be filled while a batch is being mixed. Simply constructed, easy to operate.



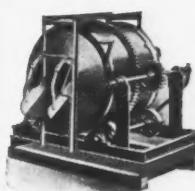
Tilting Drum Mixers

Capacity 4 cubic feet—loads easily and quickly. Thoroughly mixes concrete, plaster and mortar. Drum loads on right and dumps to left. Satisfactorily handles many jobs now being done by larger mixers.



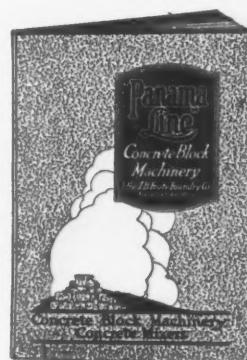
Leader Block Machine

Capacity 100 to 250 blocks per day, or one a minute when used with the Panama power tamper. Withdraws cores vertically as box is turned over, permitting wetter mixture to be used. This insures a strong block and shortens the curing process.



Panama Winner Hand or Power Mixer

Capacity 3 cu. ft. per batch under hand operation and up to 5 cu. ft. per batch with power operation. A real time saver that mixes thoroughly and quickly. Discharges into wheelbarrow or directly into mold. An ideal mixer for stationary installs.



Write name and address in this margin, tear off and mail. Catalog will be sent promptly.

The J.B. Foote Foundry Co. Fredericktown, O.

Established 20 Yrs.

14 FRONT STREET



MILES ELEVATOR AND FEEDER

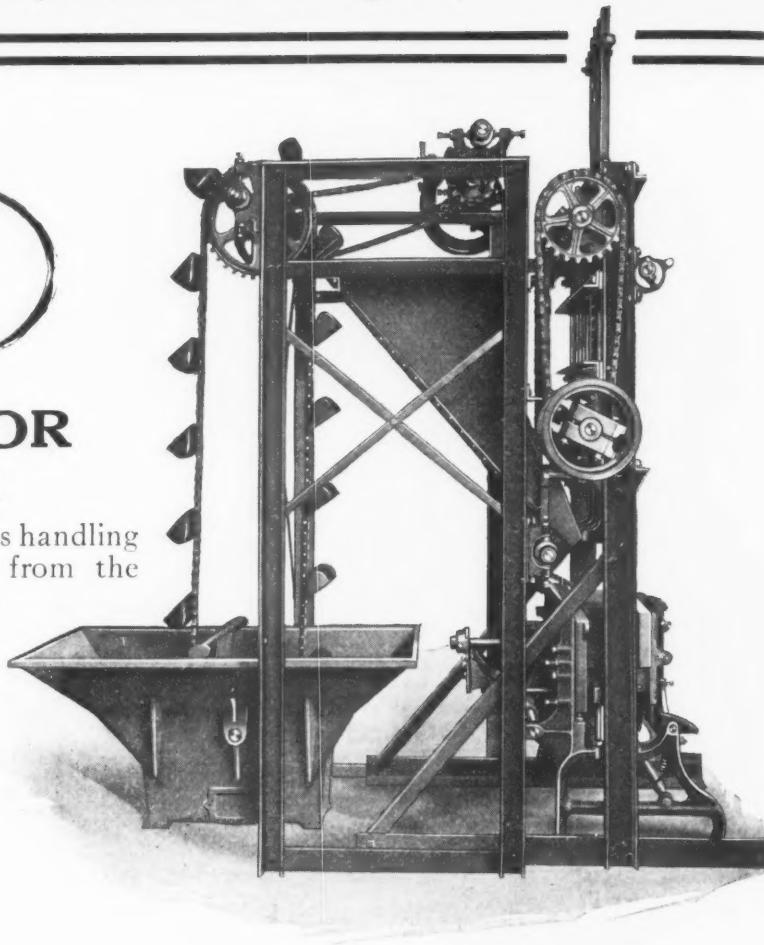
Saves time and labor because it eliminates handling material by hand. Conveys material from the mixer and feeds it into the block machine. Doubles production.

Can be bought complete with our power tamper and block machine or as a separate unit to be used in connection with old machines. Has proven its value by more than one year of actual service.

Write for further information

MILES MANUFACTURING CO.

Department 20 JACKSON, MICHIGAN



MAKE \$25⁰⁰ A DAY FILING SAWS

with the

FOLEY AUTOMATIC SAW FILER

THINK of the money you can make when you can file a saw in 5 minutes—and do a better job than a professional hand filer! The Foley Automatic Saw Filer makes sharpening saws quicker and easier, and it works equally perfect on hand, band, back, meat or circular saws.

With this inexpensive outfit you simply clamp the saw in the frame, turn on the motor or crank by hand, and it files every tooth to just the cutting edge you want—all in five minutes.

Buys Itself Quickly

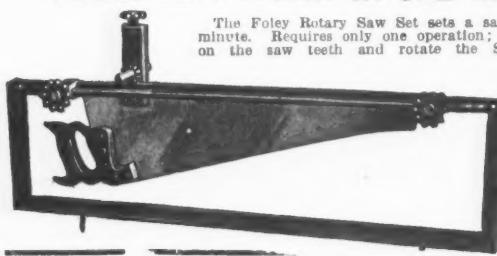
Since the Foley has come on the market you can't afford to sharpen saws by hand or send them out to be sharpened. As few as three saws will pay for a Foley in a surprisingly short time. The Foley lasts a lifetime because there's nothing to get out of order or wear out.

Real Money Makers

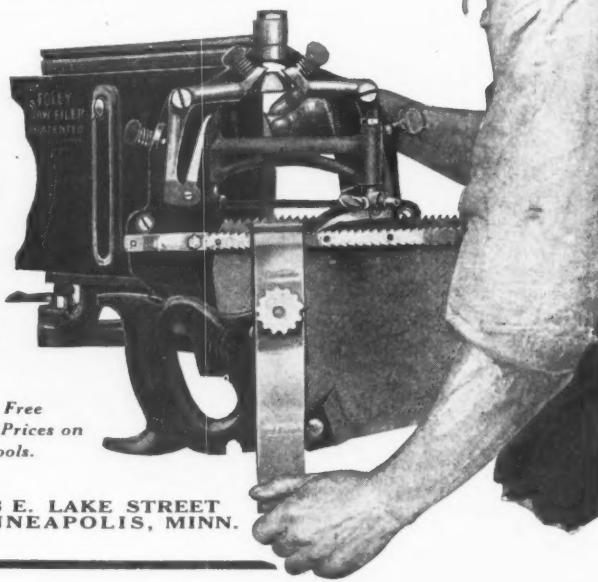
Foley Saw Tools are making big money for many men who started in the business without any experience. They handle six times as many saws in a day—every one perfect—and bring you more than you could possibly make filing by hand. Our agency proposition also offers big possibilities to wide-awake men.

FOLEY SETS A SAW IN ONE MINUTE

The Foley Rotary Saw Set sets a saw perfectly in one minute. Requires only one operation; you set the wheel on the saw teeth and rotate the Saw Set over the teeth at ANY SPEED. The Foley rolls the teeth apart with a quickness and accuracy that will amaze you.



*Send for Free
Circular and Prices on
Foley Tools.*



FOLEY SAW TOOL CO., 913 E. LAKE STREET, MINNEAPOLIS, MINN.



How Syntron saved time and money on Pennsylvania's biggest hotel

DRILLING the thousands of holes to hang the 3600 doors in the new Benjamin Franklin Hotel, Philadelphia, the Reliance Fire Door Co., of N. Y., found the Syntron Electric Hammer a tremendous time and money saver.

Laying the many miles of carpet strips, A. Wilt & Sons Co., Phila., saved many hours and dollars by using Syntron.

And Syntron did 67 hours' work in less than two hours when the main dining room carpet was rearranged on the morning of the opening day. All the kitchen equipment was installed with Syntron, too.

Some things Syntron will do

Drill 3" per minute in concrete or masonry.
Chip or channel as fast as ten men.
Rough up smooth surface.
Smooth rough surface.
Cut holes for joists, etc.
Vibrate concrete forms.
Drive a wood chisel into the hardest wood.
Chip slag, etc., from iron furnace.
Spade earth in cramped quarters.
Bend boiler tubes.

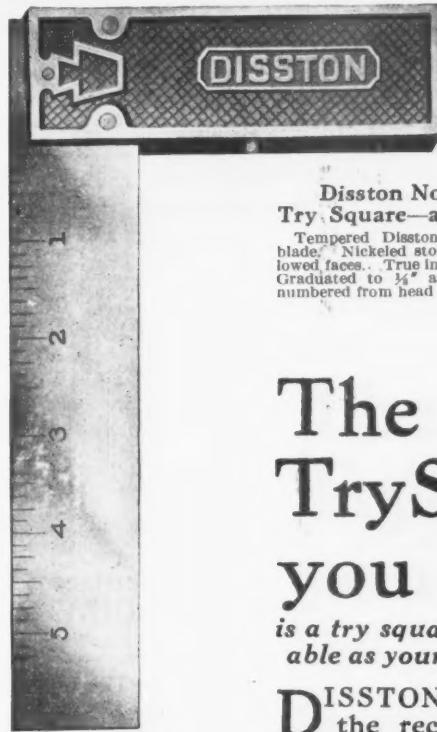
Write for full information

National Electric Mfg. Co.
969 Chatfield-Woods Bldg.
Pittsburgh, Pa.



SYNTRON Electric Hammer

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Disston No. 5 1/2 Try Square—all metal

Tempered Disston-made Steel blade. Nickel stock with hollowed faces. True inside and out. Graduated to $\frac{1}{8}$ " and correctly numbered from head to end.

The Try Square you want

is a try square as dependable as your Disston Saw

DISSTON appreciates the recognition carpenters have given the Disston Saw. For three generations, they have made it their standard of quality in tools.

You can get this same standard of tool satisfaction in your Try Square, too, by choosing a Disston.

Tempered blade of Disston-made Steel does not buckle. It always lies flat on the work. Steel blade is properly numbered from head to end.

Stock is accurately fitted to blade. Blade and stock are permanently fastened with steel rivets.

It costs no more—but it's worth a lot—to own a tool you can trust.

Ask your hardware man to show you a Disston Try Square.

Henry Disston & Sons, Inc.
Makers of
"The Saw Most Carpenters Use"
Philadelphia, U. S. A.



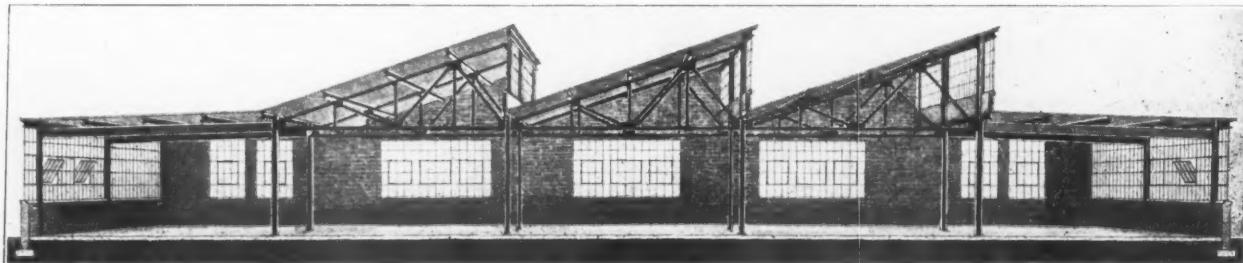
"The Saw Most Carpenters Use"

DISSTON

SAWS TOOLS FILES

Economical Steel Designs

Pave the Way
To Profitable Contracts



Our Engineering Department can be of great assistance to you by solving
FREE OF CHARGE your Steel Problems.

We make
Designs and Estimates
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Factories—Garages—Store Buildings—Warehouses

International Steel & Iron Co.

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EVANSVILLE, INDIANA

Write for "Garage Illustrations" Showing at least 50 Modern Buildings designed by us.



HE KNOWS

The Owner Knows The
Value of a Bearcat
Woodworker.

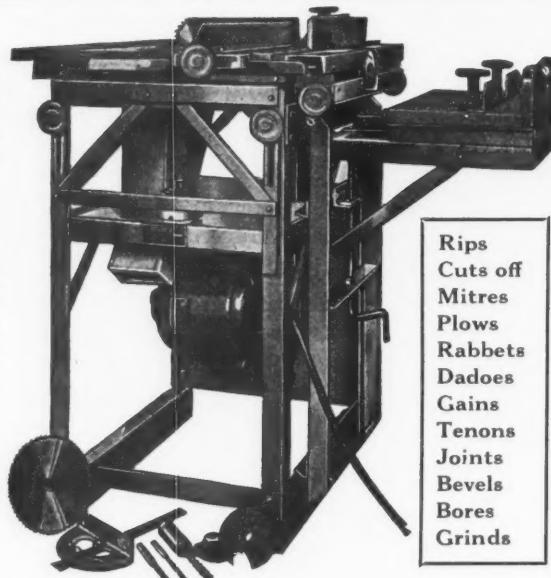
He has put it to Test

"My only regret is that I did not purchase a BEARCAT several years ago. My figures show that it paid for itself on two jobs."

Chris. J. Jackson, Contr.

*Scores of letters
like this prove that*

The Bearcat Makes Good



Rips
Cuts off
Mitres
Plows
Rabbets
Dadoes
Gains
Tenons
Joints
Bevels
Bores
Grinds

Mail This Coupon
PAXSON COMPANY, Dowagiac, Michigan

Please send catalog to

Name.....

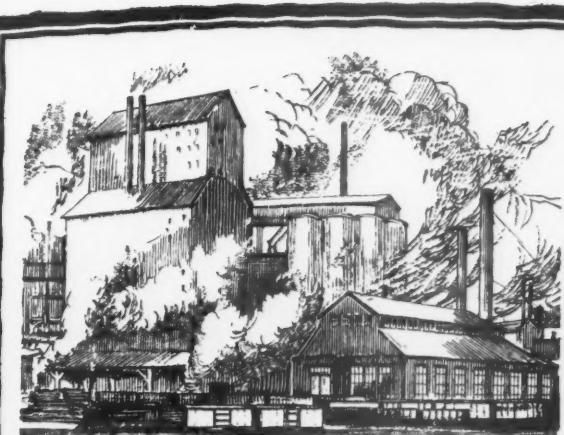
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PORTABLE and POWERFUL
On the Job or in the Shop

The **BEARCAT** Will
INCREASE YOUR PROFITS

THE PAXSON COMPANY
Dowagiac, Michigan



For all exposed uses such as roofing and siding
Inland Copper Alloy Steel Sheets should be used

Steel that's Durable *All the Way Through*

IT ISN'T necessary to rely solely on the coating of steel for protection against rust and corrosion. You can use Inland Copper Alloy Steel. When the coating or paint is gone from an Inland Copper Alloy Steel Sheet the fight against corrosion does not stop. These sheets are durable all the way through.

Inland Copper Alloy Sheets last two to three times as long as ordinary sheets—a statement amply proved by tests and usage. The copper which has been added to the molten steel gives to the finished alloy a quality of remarkable endurance.

You can safely recommend these sheets for exposed uses. They do not disappoint. Their cost is but little more than that of ordinary steel sheets. Write for descriptive circular.

INLAND COPPER ALLOY STEEL SHEETS

INLAND STEEL COMPANY

38 South Dearborn Street, Chicago

Branch Offices: Milwaukee
St. Paul, St. Louis
Kansas City, Mo.

Mills: Indiana Harbor, Ind.
Chicago Heights, Ill.
Milwaukee, Wis.



Simplex
REG. U.S. PAT. OFF.

Levels



TEN
DAYS'
FREE
TRIAL

\$90⁰⁰

AGENTS
Wanted

No Money Down

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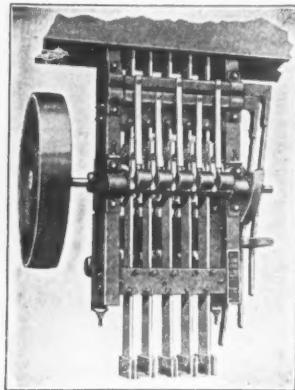
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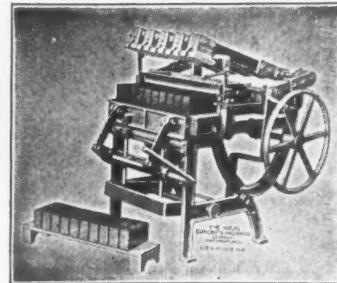


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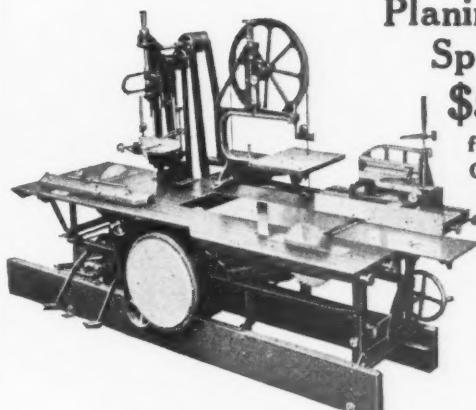
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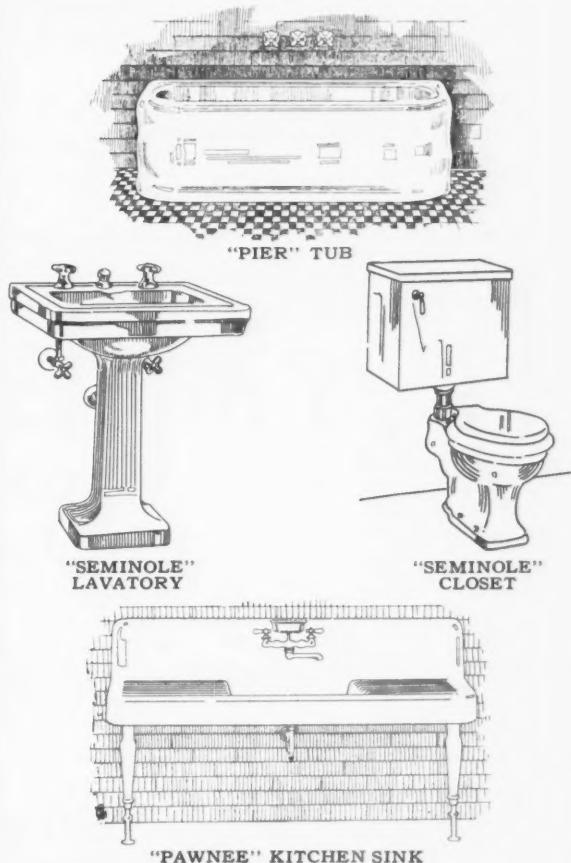
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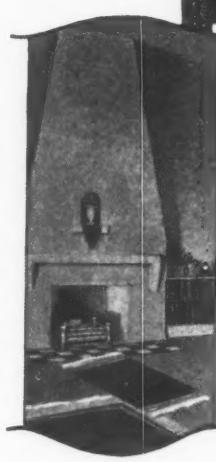
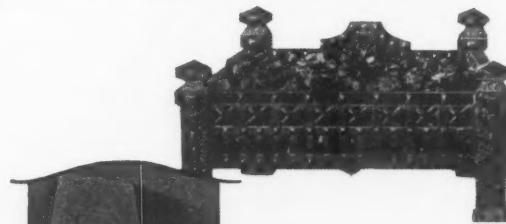
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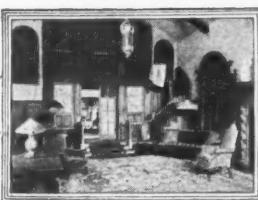
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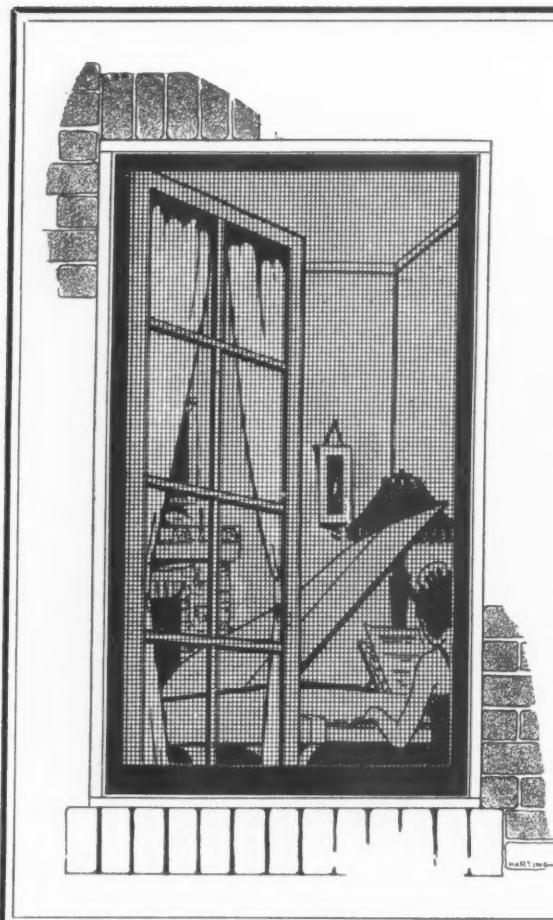
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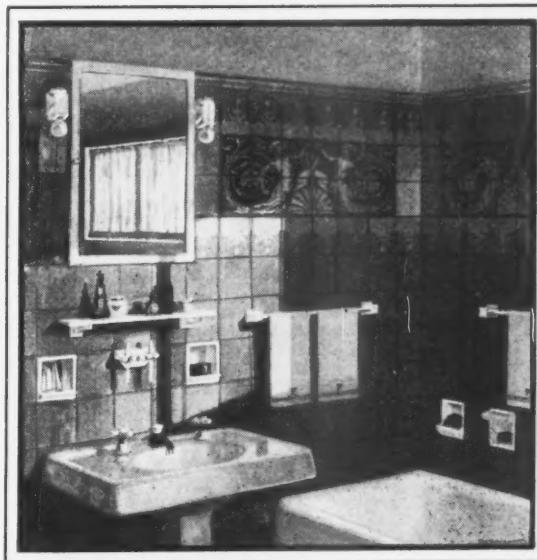


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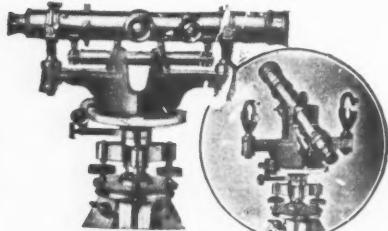
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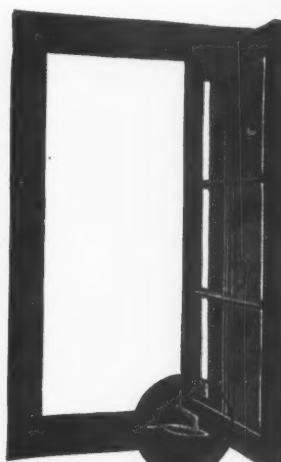
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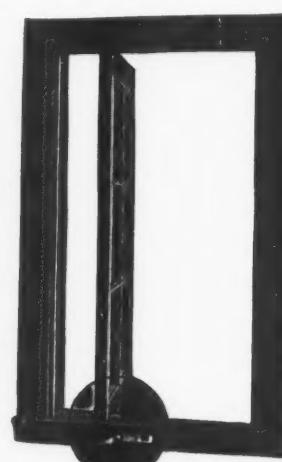
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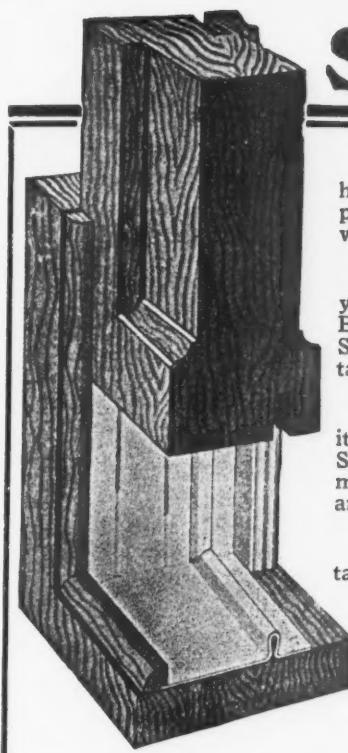
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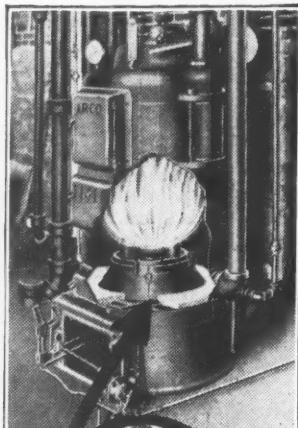
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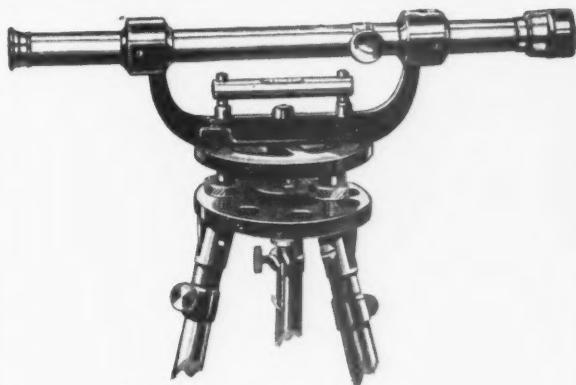
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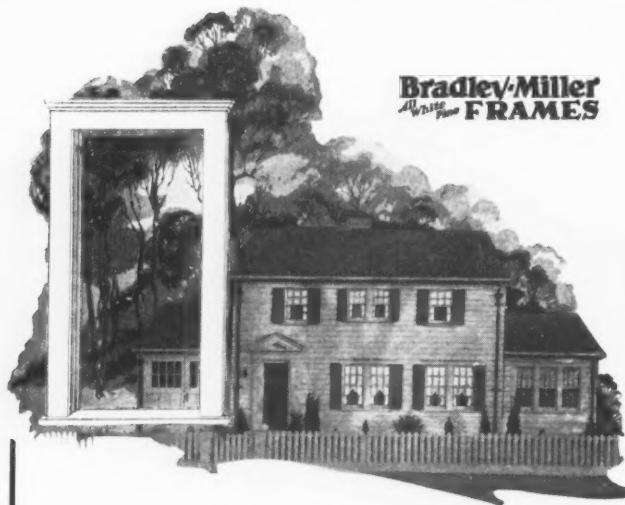
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| <input type="checkbox"/> Mechanical Draftsman | <input type="checkbox"/> Textile Overseer or Supt. |
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"Steelcrete" Metal Laths



THE illustration above shows RID-GID Metal Lath. It provides 30% greater strength with no added weight. Permits wider spacing of studding, saves cost. RID-GID is Self-Furring, too. It is a lath for every building need, a lath for economy.

Build for Safety, Durability, Economy

BUILDERS everywhere today recognize the advantages of Metal Lath for every structure they erect. From tiny bungalow to giant skyscraper there is greater safety, permanence and ultimate economy for the owner when the lath is of metal.

And when you choose from the "Steelcrete" line you find a Metal Lath well suited to each particular job.

RID-GID Metal Lath with its strength and economy; Steelcrete Rib Lath as a time and a labor saver; "Steelcrete" Metal Lath, the standard diamond mesh; Galvanized Lath cut from galvanized sheets; Copal Lath of copper bearing rust-resisting metal; Post Office Lath made to the government specifications for post offices. For every building planned there is a lath in the "Steelcrete" line to make it a better structure.

Carried in stock by leading dealers in Building Supplies

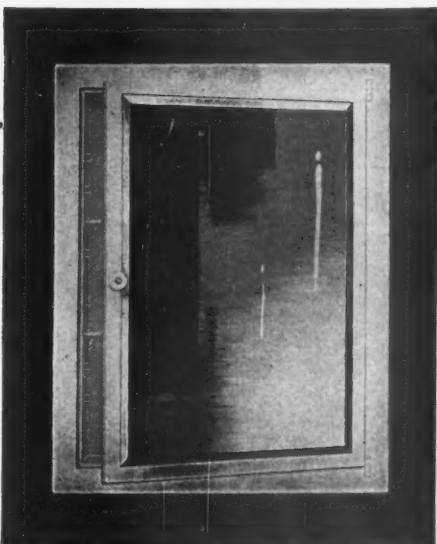
[Send for the "Steelcrete Products" booklet giving weights and sizes; also ask for bulletins on "Steelcrete" Rib Lath, and Copal or RID-GID Metal Laths.]



"Steelcrete" Channels and Corner Beads
Accessories needed in all fireproof construction.

**The Consolidated
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**"White-Steel" Sanitary Furniture Co.
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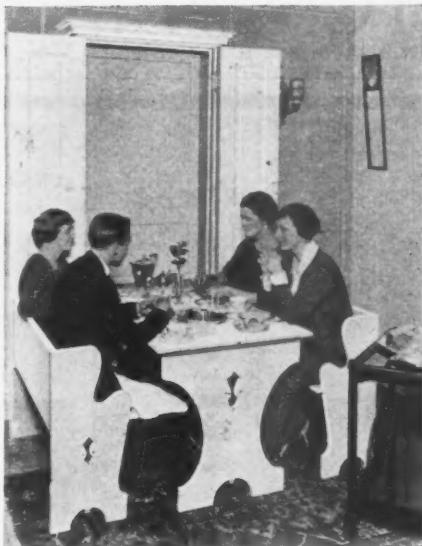
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An efficient room that folds back into its cabinet, requiring no floor space when not in use. A rental feature to homes and apartments. Time, labor and expense saver—a necessity of today

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**And Now the
Fain "Fold-Away"
Ironing Board**

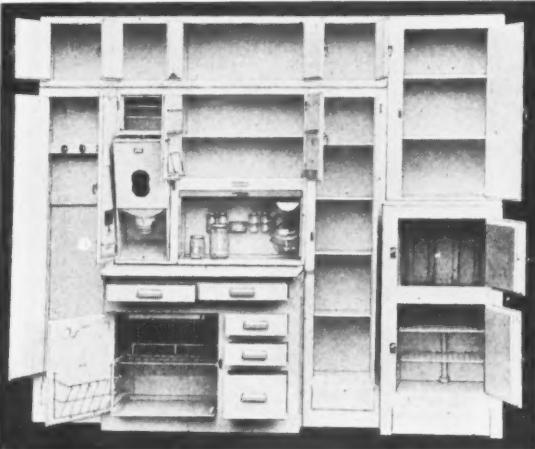


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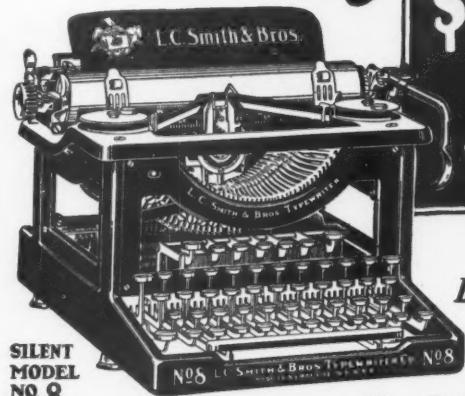
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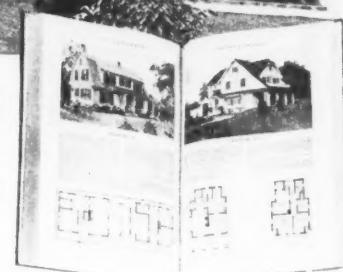
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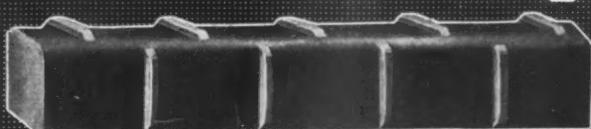


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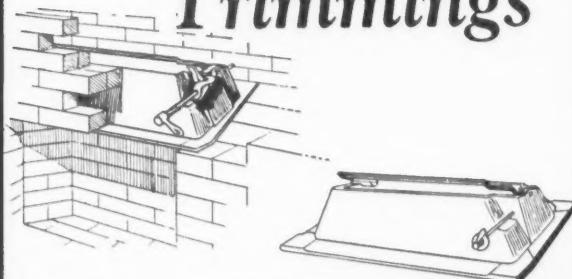
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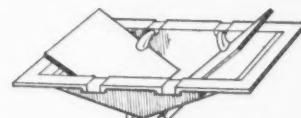
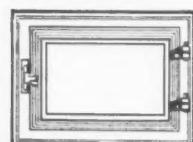


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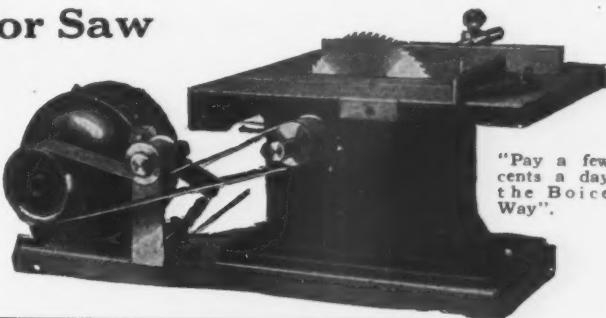
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This saw, developed from our own patents, consists of two outside cutters and a sufficient quantity of inside ones to perform the required cut. The outside cutters can be used singly or in pairs as required.

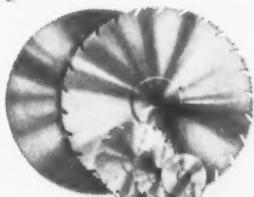
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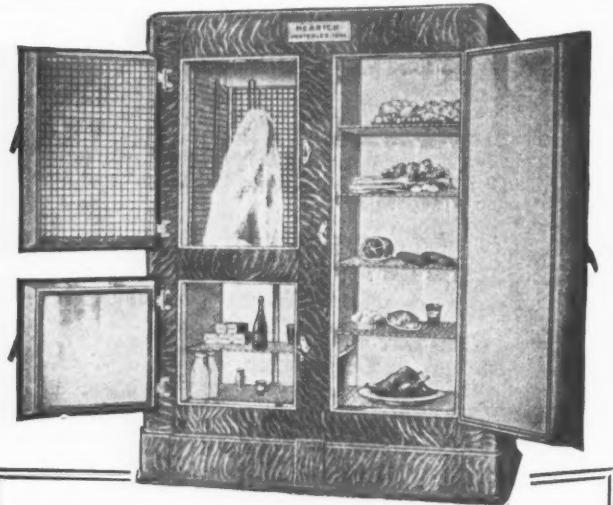
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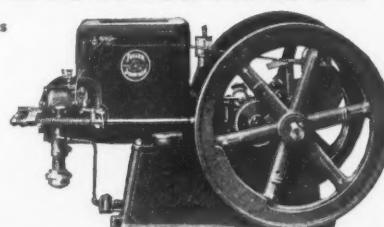
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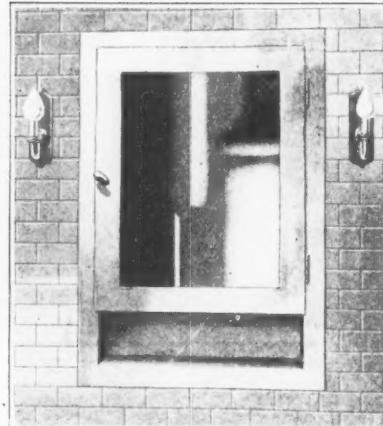
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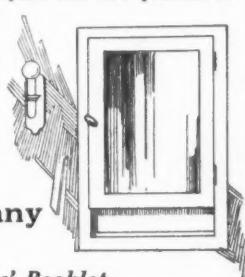


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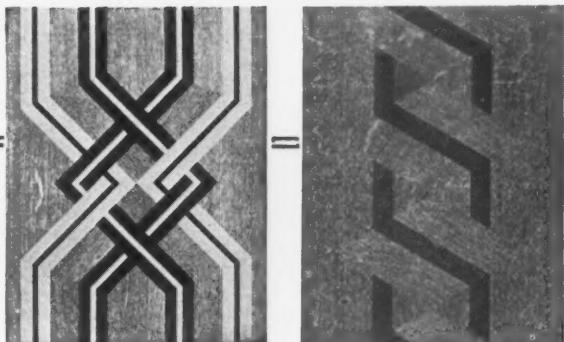
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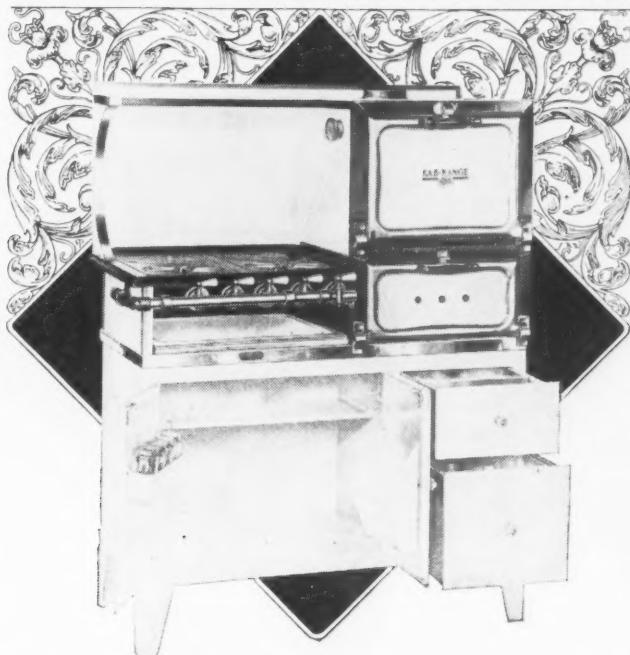
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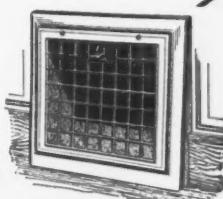
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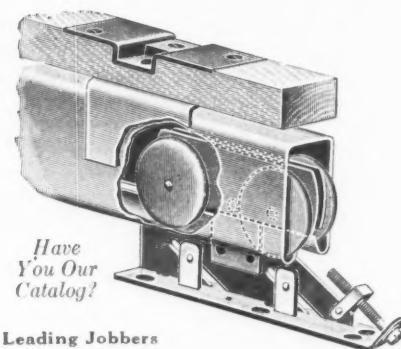
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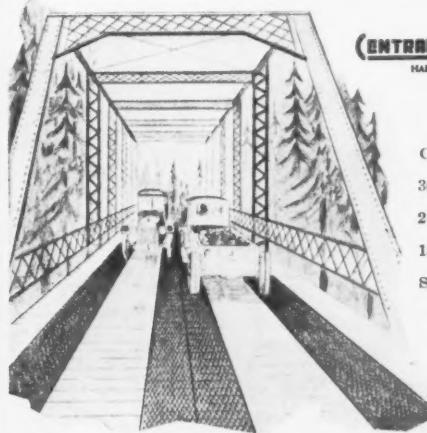
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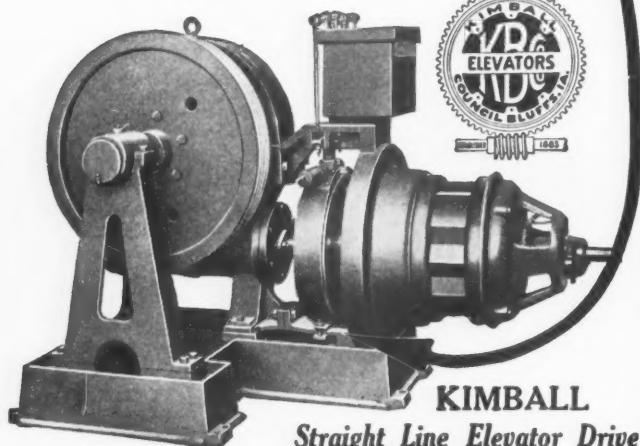
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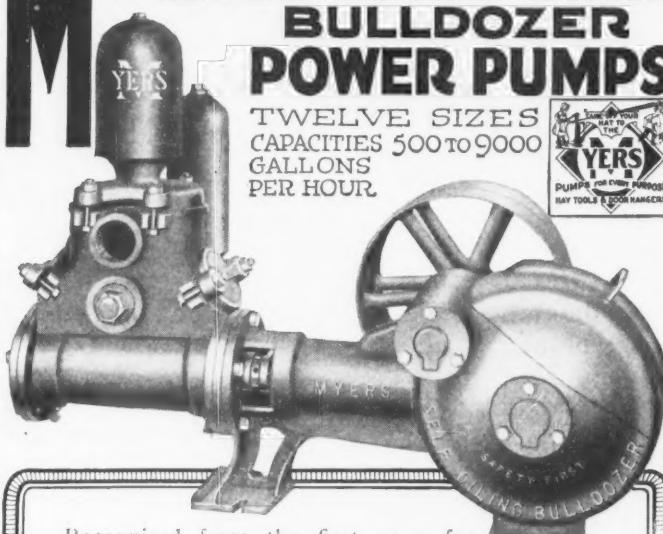
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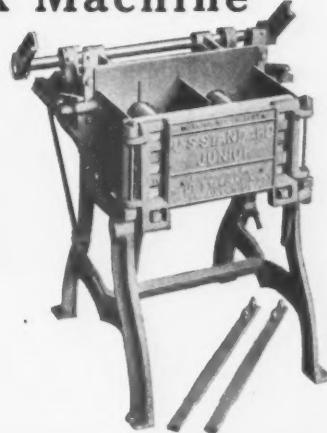
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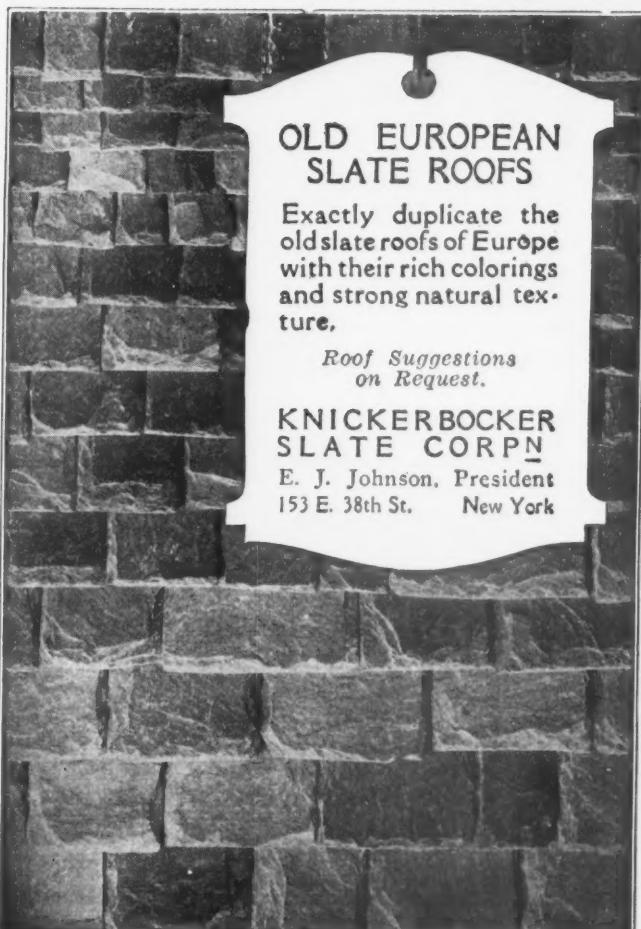
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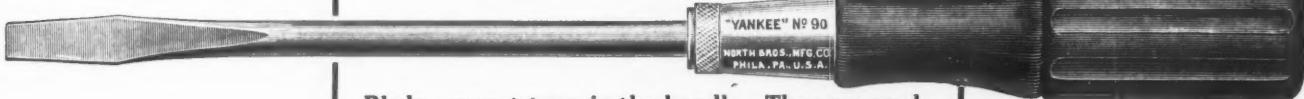
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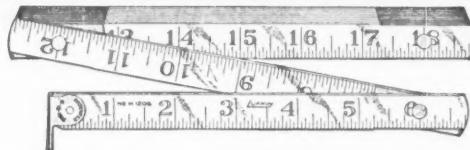
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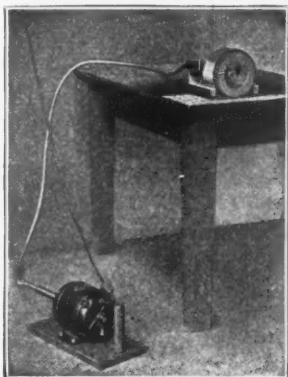


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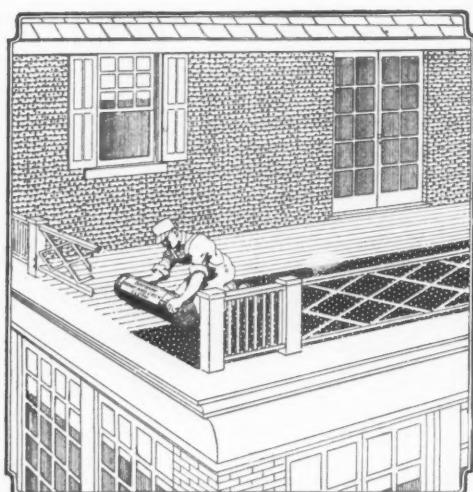
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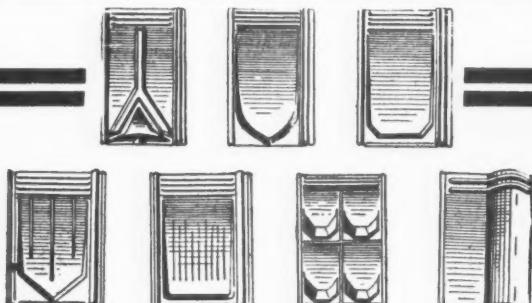
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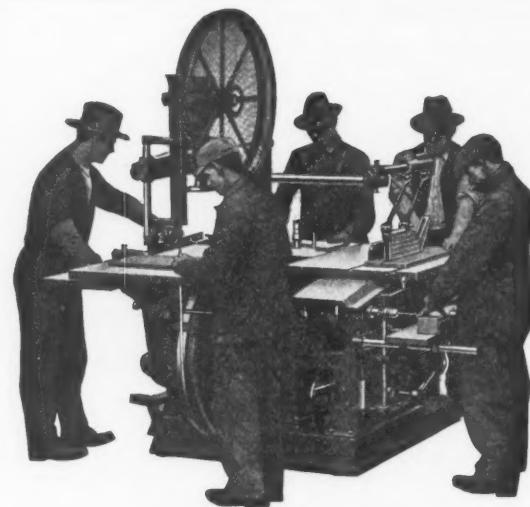


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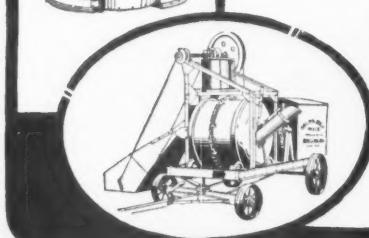
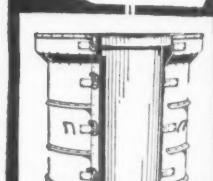
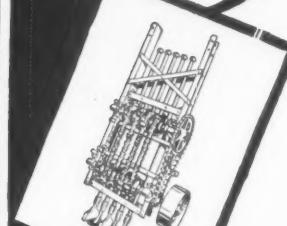
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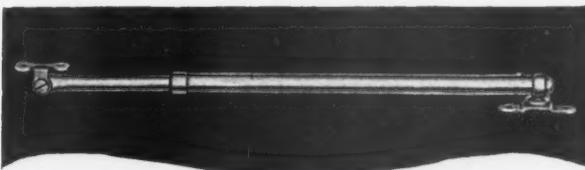
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The WALKER DISHWASHER-SINK is of heavy enameled ware—the equal of quality ware in your bathroom. It not only gives the kitchen new importance but saves space. It drives away the drudgery of dishwashing forever.

A Builder in Columbus, Ohio (name on request), says:

"One thing in particular I want to stress in this letter is the real fact that these sinks helped very materially in renting these apartments almost before the building was completed. We have not had one single call in the line of service from these eight sinks and in talking to the tenants at this apartment I believe they think more of the sink than they do of anything in the apartment."

The WALKER DISHWASHER is perfected by ten years' experience. Individual type of machine as well as this sink model approved by Good Housekeeping Institute and other testing laboratories as well as by thousands of users. Use the coupon below and indicate your interest in the sink or portable type. Full particulars will be sent you at once. Address Walker Dishwasher Corp., 348 Walton St., Syracuse, N.Y.



WALKER
Dishwasher & Dryer
Washes Dishes Cleaner Than By Hand

Different types and sizes for
Homes and Apartments.
Prices \$98 to \$215.

WALKER DISHWASHER CORP.
Walton St., Syracuse, N. Y.
obligation, send me full DISHWASHER
AND DRYER Win Sink DISHWASHER Separate
Name.....
Address.....
Name of licensed plumber.....



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Experience counts in building furnaces just as it does in building houses. For that reason our thirty years' experience must have a definite assurance for you.



Write us about your heating problems. Send in your plans. Our Engineer will draw up complete heating specifications and quote you prices complete for all materials used on the job.

Pipe — Pipeless — 3-Pipe — Majestic - Moncrief
THE HENRY FURNACE & FOUNDRY CO.
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*Ask
Any "Old
Timer"
About
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EMPIRE LEVEL

Those fine old mechanics to whom extreme accuracy is second nature are enthusiastic about this wonderful level. The Empire is made **Right**—that is why it is so popular. The famous Empire interchangeable case construction—for quick repair of broken glasses—is now available in both the wood and aluminum levels.

If your dealer does not stock them write

EMPIRE LEVEL MFG. CO. Milwaukee, Wis.



UNBRANDED TOOLS AND EQUIPMENT "DISAPPEAR" LONG BEFORE THEY WEAR OUT

You lose tools and equipment on nearly every job due to intentional or unintentional theft. Your tools get mixed up with others and the contractor with the easiest conscience comes out ahead.

Therefore, you long felt the need of an inexpensive branding iron like the Everhot for quickly branding tools, scaffolding, sheeting, wheelbarrows and other equipment. Complete Everhot equipments as low as \$14.00. Write for descriptive circular.

EVERHOT
America's Brand Makers
LEVELING
MANUFACTURING CO.
 MAYWOOD, ILLINOIS



BOVEE FURNACES

Established 1895

Reliable, Durable and Economical
Manufactured in all sizes having 20-inch
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Combustion chamber more than double the size of
the average furnace.

SAVE 40% IN FUEL

Special to Contractors . . . Very Easy to Install. No Tinner Required.
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Synonyms!

PYRAMID STUCCO And DEPENDABILITY



FLEXIBILITY TEST

A half-inch coat of Pyramid Stucco, covering a board six feet long, can be bowed six inches from horizontal without fracturing the stucco.

You can rely on the uniformity of Pyramid Stucco, for scientific preparation and handling of ingredients insures a dependable uniform product.

The chemical composition of Pyramid Stucco—the result of years of study—produces a remarkably elastic stucco possessed of a tensile strength far in excess of that which is required in stucco construction.

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Yet—Pyramid is more economical than an ordinary stucco.

Literature describing the distinctive qualities of Pyramid Stucco, specification booklet and price lists will be mailed you at your request.

PYRAMID COMPANY, 231 S. Wells St., Chicago



PYRAMID COMPANY—MEMBER OF THE NATIONAL ASSOCIATION OXY-CHLORIDE CEMENT MANUFACTURERS



We will send you one of our nails that was in actual service for 40 years, if you will send us your name and address.

Everlasting

ZINC COATED NAILS

Manufactured by the

Malleable Iron Fittings Co.

are truly Everlasting. The heavy zinc coating applied by the "hot-dipped" process makes them so.

You contractors in erecting buildings of quality cannot afford to use a cheap, inferior nail.

M. I. F. Co. Heavy Zinc Coated Nails have been put to the severest tests and have proved over and over again that they are rust-proof, and the most durable nails in the world.

If your dealer does not handle our nails we will sell you direct.

MALLEABLE IRON FITTINGS CO.
Branford, Conn.



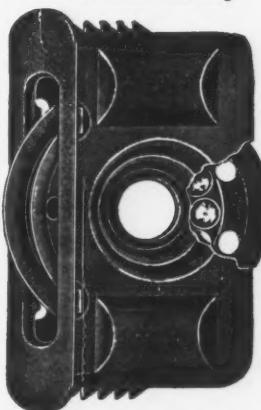
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are LIGHTEST yet strongest. Two-thirds of your freight is saved, yet a BROKEN PULLEY IS UNKNOWN in our product—and these superior ALL-STEEL goods cost no more than the common pulleys made of cast iron.

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This Pulley has the automatic saw-tooth fastening feature which saves time and labor. No nails or screws required, yet the Pulley is held in place more securely than when fastened by any other method.

No. 10 Ball Bearing

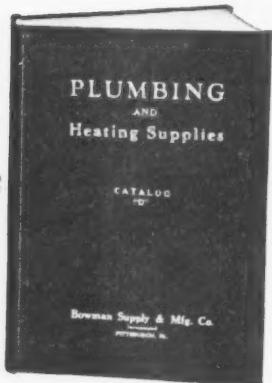


Grand Rapids Hardware Co.

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Grand Rapids, Mich.

Mail Coupon
for FREE
Sample

GRAND RAPIDS HARDWARE CO.
I am interested in your pulleys.
Please send me No. 10 Ball Bearing Pulley
Name.....
Address.....
City.....
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You should have the "Bowman" catalog of plumbing and heating supplies in your files. Write today for this catalog and have a reference of the best.

BOWMAN SUPPLY & MFG. CO., Inc.
878-892 Progress St., N. S. Pittsburgh, Pa.



Thru Knots! or Dowel Pins!

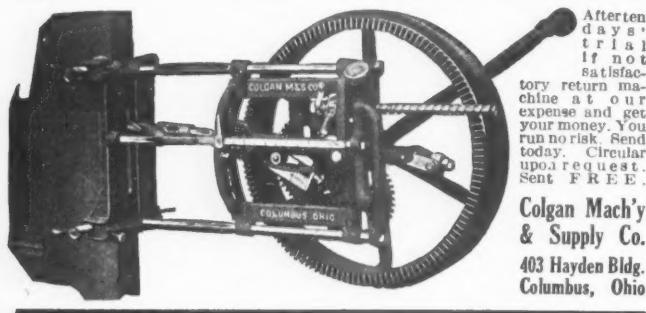
No need to fear knots or dowel pins when cutting a mortise with the Champion Mortiser. It works with equal ease in any kind of wood, whether hard, soft, cross-grained or end wood. Cuts a perfect mortise of any desired length, width and depth "slick as a whistle."

The New Improved

Champion Mortiser
Cuts a Perfect Mortise in a Minute or Two

—Is five times faster than the old-fashioned hammer, chisel and brace and bit method. No guess work is necessary. Anyone can operate it. A money saver and time saver. Carried anywhere. Cuts a perfect mortise $\frac{1}{2}$ " to 11" wide and any length from round hole to 6" slot. Can be used on stock $\frac{1}{2}$ " to 24" thickness. Special base for mortising wide stock furnished on request. Year's guarantee with each machine. Sent complete with choice of any two bits ($\frac{1}{2}$ " to $\frac{3}{4}$ ") \$40.00 f. o. b. factory. Additional bits up to 14" furnished at \$2.00 each.

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After ten days trial if not satisfactory return machine at our expense and get your money. You run no risk. Send today. Circular upon request. Sent FREE.

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CASCO

The guaranteed blackboard distinctly superior to natural slate.

Casco—applied like a hard finish plaster—forms a seamless blackboard of any size—a noiseless, smooth writing blackboard made of a stone and metal composition that will outlast the building.

Yet—Casco artificial slate construction costs 25% less than natural slate.

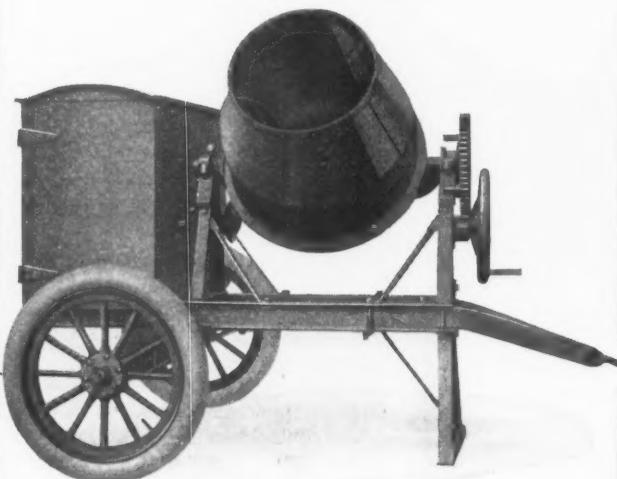
Installed by any competent plasterer. Guaranteed absolutely satisfactory.

CHICAGO ARTIFICIAL SLATING COMPANY
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CHICAGO

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HERE IT IS—THE ATLAS TRAILER



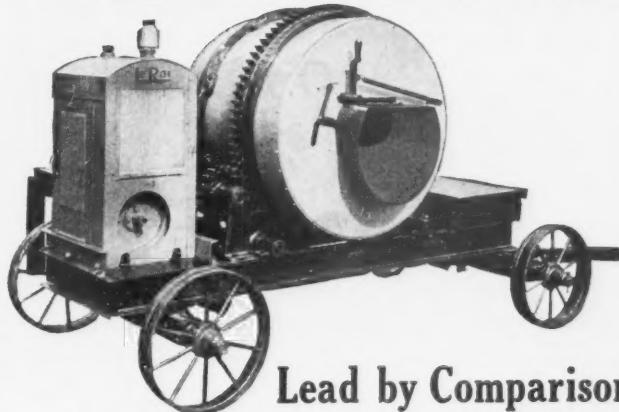
Sold at a price that will interest you.

Built in standard sizes also can be furnished with solid cushion tires. Spring mounting at a slight additional cost.

Write for General Mixer Catalogue and Prices

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CROPP MIXERS



Lead by Comparison

On the firing line, where a mixer must stand the gaff of continual use, or go to the hospital, Cropp Low Charging Mixers lead the field. Discharges a full load with one revolution; takes a full wheelbarrow charge in one gulp; fast and thorough mixing action for a wet or dry mix; a reliable and accessible power plant. These are the Cropp Outstanding features. Send for full details on the New Cropp Models.

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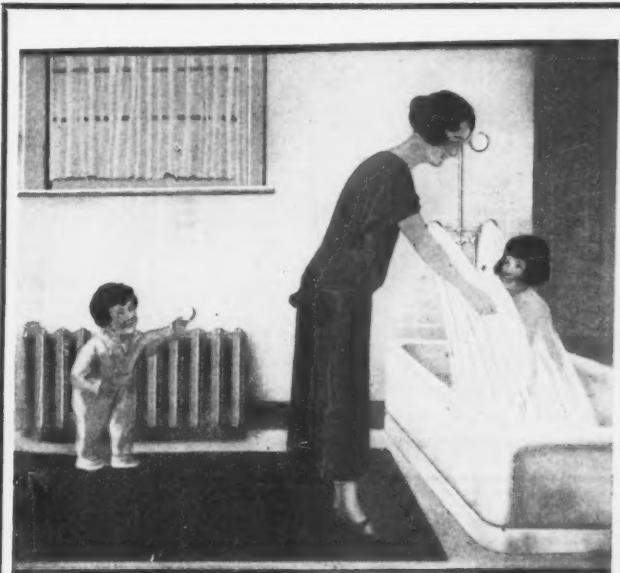
We have an unusually generous proposition for agents who want to handle a line of high grade Mixers.

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B. M. CROPP CO.

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THE MODERN HOME IS BUILT AROUND ITS BATHROOMS—

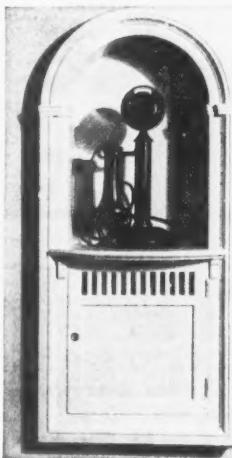
The time saved, convenience and healthful results of bathing in clean running water makes the shower a demand and a necessity for every bathroom.

THE KENNEY NEEDLE SHOWER is the ideal shower—it puts the water where it is wanted—no overhead deluge. The converging stream principle eliminates the need for curtains. It is the economical shower and there's a model for every condition.

Write for Booklet B which explains why curtains are no longer necessary.

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The Phoenix Phone Cabinet

For hotels, apartment houses, homes and offices.

A decorative wall niche for the telephone.

Practical and most convenient.

Can be readily installed in old or new work in a wall or partition from 3 to 5 inches or over in thickness. It can be supplied in designs to meet your needs. Lower part conceals the bell box.

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The Best Ask For
The Germantown
Master Builder**

for 66 years the standard of quality. If you cannot be supplied at your local dealer's

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GRIFFITH TOOL WORKS
Philadelphia, Penn.

THREE SIZES
20 oz.
16 oz.
11 oz.



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**READY
TO INSTALL**

The Limaco Ironing Board Cabinet

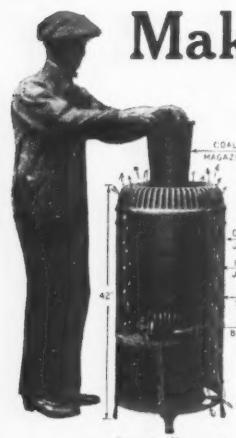
The Limaco steel ironing board saves

time and labor on installation because it comes ready assembled. Fits between standard studing. Made of heavy gauge steel sheets and assembled by the welding process. Insures a rigid and substantial job. The board is stamped from 20 gauge steel and guaranteed not to warp. Finished in pearl gray enamel flat coat, making an ideal ground for any standard finish. Quantity prices.

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LIMA SHEET METAL PRODUCTS CO.

LIMA, OHIO



especially easy to sell the

\$69⁵⁰

Kan't-Freez
Warm Air
Garage Heater

F. O. B.
Toledo

Sell the extras that make a garage complete. It's as easy for owners to finance complete job as it is a bare garage and you get the profits someone else would get later. It's

Costs you nothing to install; your own men can do it. Kan't-Freez pays you a far bigger percentage of profit than garage building itself. Get this extra profit. Write today for full information and contractors discount.

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A Real Space-Saving Unit

that adds beauty and distinction and can be installed in any wall. A built-in lavatory and cabinet occupying but four inches in depth, presenting the appearance of full length mirror when closed.

Ideal for Bed Rooms of homes. Other units suitable for Apartments, Office Buildings and Hotels.

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Jointers complete ready to use, also full line Jointer Heads and parts, bevel gauges for jointers. If you are doing woodwork of any kind, or have rough timber to dress, get our circular and prices. They are interesting for any woodworker. Manufactured by

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Smith's
Washer
Cutter

For cutting all kinds of leather washers, also pump packings, valves etc. Made in two sizes, 3" and 6".



SMITH'S ADJUSTABLE
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Manufacturers of Wrenches,
Nippers, etc.

OTIS A. SMITH Manufacturing
Company
ROCKFALL :: CONNECTICUT



KEES
METAL
CORNERS
for
WIDE
SIDING

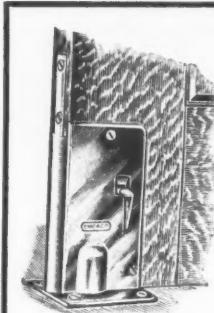
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Make weather-proof mitred corners. No slow cutting and fitting.

Galvanized iron is treated to take paint and stain. Accurately formed.

For all widths of lap siding from 3 to 11 inches, and for drop siding. Samples and catalog free.

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SPRING HINGES

THE NOISELESS HINGE
WITH
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Recommended for CHURCHES,
SCHOOLS, HOSPITALS, and RESI-
DENCES.

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*Jaeger
Announces
New Models in
Concrete Mixers
and 1925 Prices
See Pages
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Tennessee Cedar With the GOOD Left In
Endorsed by Better Architects and Builders Everywhere
Look for Further Announcements

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"The Highwood" complete, ready to install, 60-lb. capacity. Height 20 feet. \$34.50.

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Lignine (Wood) Carvings—Unbreakable

Do not CHIP, CHECK, CRACK nor SHRINK. Capitals, Pilasters, Doves, Scrolls, Heads, Period Designs—Adam, Hepplewhite, Chippendale, Queen Anne, Modern, English and Italian Renaissance. **SAVE YOU BIG MONEY.** New Catalog No. 9 and sample FREE.

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Announces
New Models in
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VERDOLITE MARBLE

Is Best

Use Verdolite Marble for Stucco Dash, Terrazzo Floors, Facing Concrete Block and Brick. Can be supplied in combination green and red.

We also manufacture the famous "Anchor Brand" mortar colors.

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**The Mark of Excellence
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GUARANTEES to you the absolute uniformity in quality found only in this roofing of the ages.

It assures you of more than a lifetime of uninterrupted satisfaction.

Unexcelled beauty and quiet dignity are at once apparent in the home roofed with

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Our sole product
since 1913

Just turn the tube
to set the proper
resistance, then
forget them.

They give se-
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and are indestruc-
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5 SIZES

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PER DOLLAR
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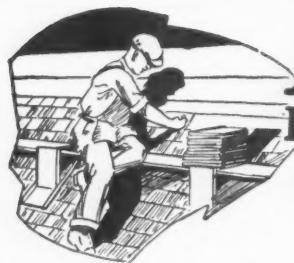
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Because our "Old Fashioned" quality Adze has tool steel edge — tempers clear through. Wears twice as long.

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Send me copy of your catalog on Adze and where I can buy them here.





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THE QUICKEST
EVER AND AS SAFE
AS THE EARTH UNDER
YOUR FEET.

MANUFACTURED BY

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FOR THE OWNER OR THE INVESTOR TO PAY FOR IS
THE BEST LUMBER
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Tide Water
Cypress
"The Wood Eternal"

BECAUSE IT LASTS & LASTS & LASTS & LASTS
Look for this on every board—
Accept no Cypress without this mark



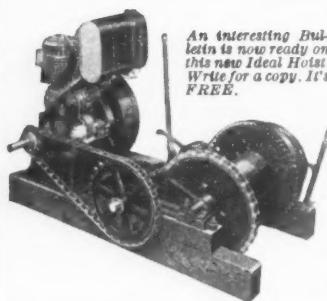
CH. & E.

Saw Rigs	Elevators
Pumps	Mortar Mixers
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New—A COMPLETE IDEAL HOIST



An interesting Bulletin is now ready on
this new Ideal Hoist.
Write for a copy. It's FREE.

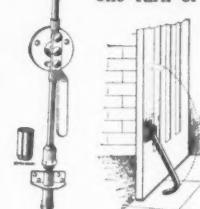
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Universal Hoist & Mfg. Co.
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Garage Necessities

Garage Door Bolt

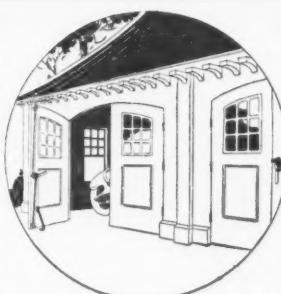
Specially designed for garages, factories, warehouses and fire doors. Locks and unlocks top and bottom bolt with one turn of handle.



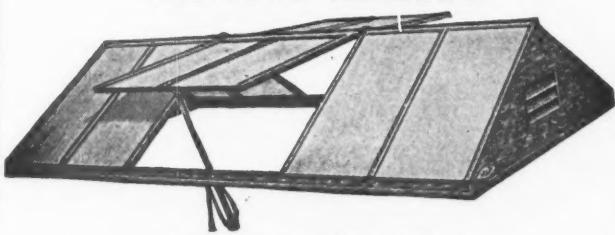
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Prevents accidents, broken head lights and fenders. Operated by hand or foot. For prices and further information write today to

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Type G. P. 2—uses Rope Operator

Venta-Lights are skylights whose sash open upward. They are the most efficient roof ventilators made. No operation cost. Easily erected by anyone. Write for Bulletin C-C 46.

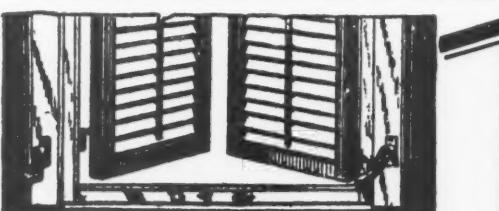
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Aurora, Illinois

ORIGINATORS OF SASH CHAINS



MADE IN "GIANT METAL" (PHOSPHOR BRONZE)
"RED METAL" (BRONZE) AND STEEL IN A VARIETY
OF SIZES FOR DIFFERENT WEIGHT SASH. FAR
SUPERIOR TO SASH CORD.

THE SMITH & EGGE MFG. CO.
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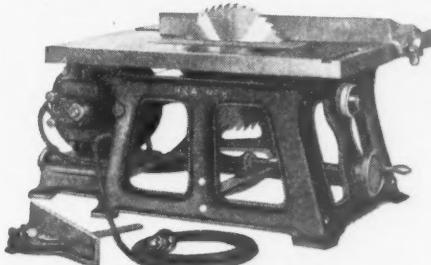


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Operate from inside by a simple turn of the handle
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Portable Electric Rip Saws—Band Saws—Swing Saws



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*Save Time,
Power
and Money*

Do away with
hand work.

More satisfactory than
any combination machine
and all three cost
but little more.

*Guaranteed
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There Is No Better Machine Made Than the “Lightning Electric” **Floor Surfacer**

If you are interested in Floor Surfacing Machines be sure to write for the literature on the “Lightning Electric”—the highest quality and most economically priced floor surfacer on the market. Will do the work of six to eight men and do it better.

No Old-Fashioned Side Roller

The “Lightning Electric” will surface right up to quarter round without the use of the Old-Fashioned and cumbersome side roller. Leaves NO waves or chatter marks in the roughest floors—will NOT vibrate.

Five Day Free Trial and Five Year Guarantee

Write for our five day free trial and our five year guarantee on the best Floor Surfacing Machine the world has ever produced. Costs you nothing to investigate and the machine pays for itself the first month. A business making proposition for the contractor or individual—write today.

National Sanding Machine Co.

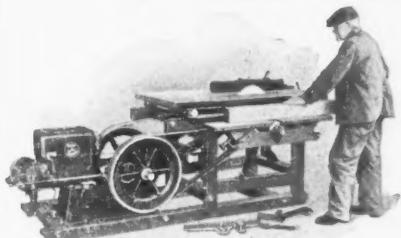
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NO OTHERS
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ACCURATE
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SIMPLE

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MONTROSE, PENNA.

The American Sash Trimmer

Is a handy machine for speeding up your production in the shop. This machine will save you much time and money in making

Divided Light, Fancy Sash,
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AND OTHER LIKE PRODUCTS
We will gladly send you circulars
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The BACK SAVER

For the use of Scrubbing,
Waxing, Polishing, Sanding
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kinds.



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Speed Up Your Work with the Racine Duplex Band Saw

It's the only combination wood and metal cutting portable band saw for woodworkers, pattern shops, tool rooms, metal workers and contractors.

Can be attached to
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Runs as smooth as
a watch.



Don't wait.
Write today.
Our circulars will
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15th Street
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Look! Something You Have Been Waiting For!

Electric Floor Sanding Machine that is practical for the small apartment house work. Lightest machine on the market, total weight 180 lbs. Only machine that can be operated from the ordinary 5 amp. meter. Guaranteed to take up absolutely all the dust. Has the best equipment that can be bought in the market today. Check this up. G. E. or Wagner 40 degree motors. Morse silent chain drive, EHV ball bearings and 50 ft. Royce rubber belt drive. Improved split sanding drum running 1450 R. P. M. 300% saving on sandpaper. Latest. Improved. Up-to-date. Patented in U. S. and Canada, July, 1923. Special price, F. O. B. Factory, \$275.00. Fully guaranteed against defect in workmanship or material.

Man'd by CAMPBELL MACHINE CO., INC., 39 Hayward St., P. O., Atlantic, Mass.

BARNES Electric Bench Scroll Saw

Portable—
take it to
the job!
Weight 80 lbs.



Will saw 2 inch
Pine at 2½ feet per minute—2 inch Maple at 1½ feet per minute

Made by

W. F. & John Barnes Co.
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CHICAGO

**Chicago-Francis
Interior Gas-Heated
Clothes Dryers**

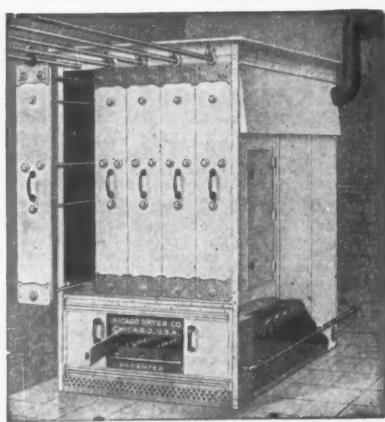
4 sizes for every need

We manufacture a complete line of laundry appliances.

Our engineering department is at your service. We help you plan the laundry. Free of charge. All inquiries will be given prompt and courteous attention.

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FORSTNER BITS BRACE & MACHINE

**THE FINEST Tool Manufactured
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Specially adapted for Hardwood operations; indispensable to the High Class Carpenter and for Cabinet and Pattern Work.

Manufactured by
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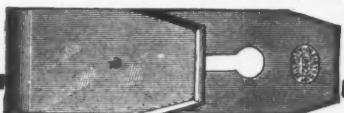


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23	22	21	20	19
LENGTH OF COMMON OF HIP OR	RAFTER VALLEY	PER FOOT RAFTER	RUN PER FOOT	RUN
FIGURES	GIVING	SIDE CUT OF JACKS	OF JACKS	OF JACKS
22	21	20	19	18
16 INCHES 2 FEET	OF JACKS	OF JACKS	OF JACKS	OF JACKS
	OF HIP OR	VALLEY	RAFTERS	RAFTERS
	SHEATHING	IN VALLEY OR HIP		

THIS CUT SHOWS END OF BODY OF SQUARE

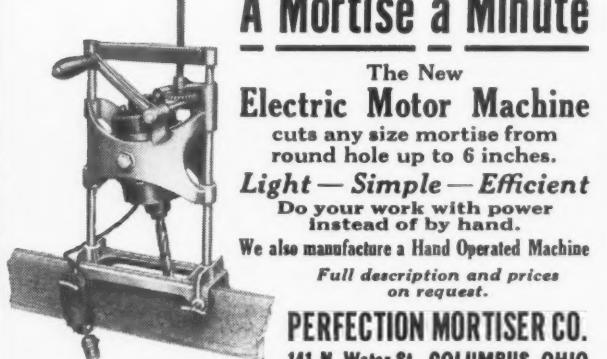
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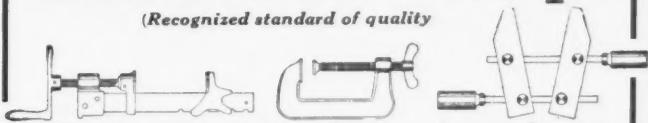
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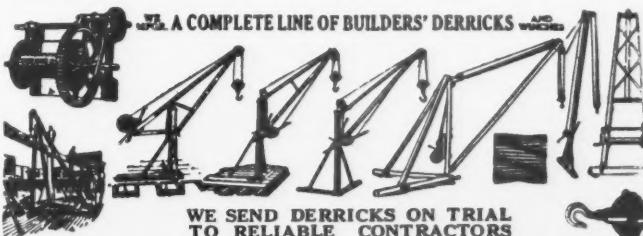
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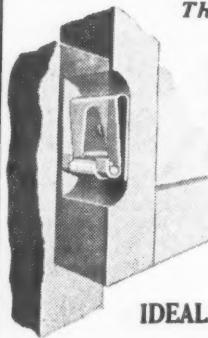
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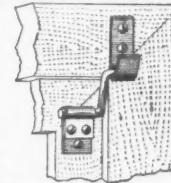
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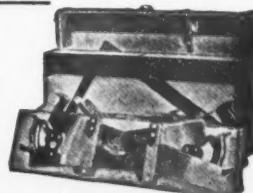
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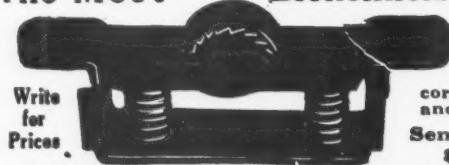
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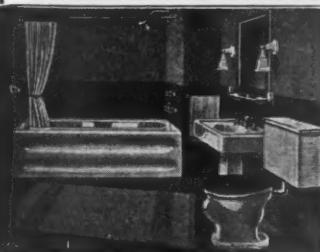
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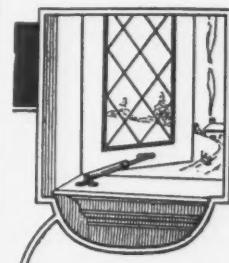
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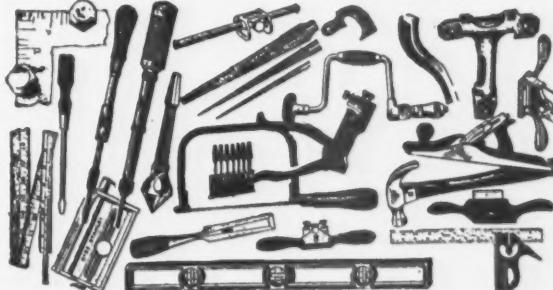
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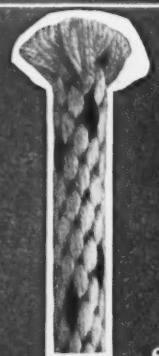
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